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ABSTRACT

This study evaluates user satisfaction and the cost effectiveness of the use of computer systems in the Braille and Talking Book Program of the Ohio Regional Libraries for the Blind and Physically Handicapped, and makes recommendations for patterns of service and funding. This report provides an executive summary as well as a 3-part presentation of aspects of the program. Part I covers present service: library services to the blind and physically handicapped in Ohio, delivery patterns, a telephone survey of program users, and an evaluation of present service and recommendations. Part II evaluates the regional library computer systems: elements of an automated circulation system for the Libraries for the Blind and Physically Handicapped, history of computerization at the Regional Libraries, evaluation, and costs. Part III discusses alternatives and recommendations for service structure and funding. Appendices provide the survey instrument used in the telephone survey of program users as well as a directory of the libraries and agencies involved in the program. (JD)

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FINAL REPORT

on

A STUDY OF THE BRAILLE AND TALKING BOOK PROGRAM IN OHIO

to

THE STATE LIBRARY BOARD OF OHIO

February 13, 1979

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Richard M. Cheski

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

By

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EXECUTIVE SUMMARY

The State Library of Ohio has the legal responsibility for library development for the State. Providing library services to the blind and physically handicapped is part of this responsibility. From time to time the State Library formally evaluates the statewide services it supports; this study by the Battelle Columbus Laboratories is such an evaluation effort. The study was to evaluate user satisfaction and the cost effectiveness of the computer systems at the Regional Libraries, and to make recommendations concerning patterns of service and funding.

Providing library services to the blind and physically handicapped is a partnership between the State Library, the Library of Congress, and local public libraries at Cleveland and Cincinnati which administer the Regional Libraries for the Blind and Physically Handicapped, in conjunction with the Rehabilitation Services Commission and the sublending machine agencies. Each of these agencies has an important role to play in providing the service; in Ohio there are very smooth working relationships resulting in excellent service to the 20,251 registered readers.

User Satisfaction

This study surveyed a random sample of users of the Talking Book and Braille program in Ohio by a telephone questionnaire. The majority of users are highly satisfied with the service and feel that it needs little improvement as shown on the following page:

RATING OF THE PROGRAM

Rating	Percent Responding
Excellent	52
Very Good	32
Good	14
Fair	1
Poor	1
TOTAL	100

SATISFACTION WITH SERVICE

Service	Satisfied (%)
Courtesy of librarians	100
How tapes work	87
Speed with which machines are replaced	92
Availability of librarians	97
Selection of magazines	91
Availability of braille materials	90
Condition of machine	91

From these data, we conclude that the program is fulfilling its objectives of meeting the needs of most users.

Computerization

Both Regional Libraries in Ohio have computerized systems for maintaining records on readers interests and for circulation of materials to them. The systems were developed specifically to meet the needs of the library program for the blind and physically handicapped. They improve the cost-effectiveness of the service by freeing librarians from costly and cumbersome manual systems, and make service quicker and more efficient for readers. These systems represent good investments.

Major Recommendations

This study makes three major recommendations to the State Library Board. These are summarized below with the supporting data:

> RECOMMENDATION 1: The present structure of two Regional Libraries be maintained for Ohio. The data of this study substantiate this position at this time.

Supporting Data:

- Users' overwhelming satisfaction with the service as presently offered including contacts with the Regional Libraries and speed of delivery of materials,
- The satisfactory working relationships established with other agencies serving the blind and physically handicapped, e.g., the Rehabilitation Services Commission and the sublending agencies,

- This alternative is the most cost-effective for providing statewide services at their present level,
- Certain major advocate organizations for the blind, including the National Federation of the Blind and American Council of the Blind, support Regional Libraries because they have large, comprehensive collections,
- The service is now functioning smoothly and improving services.

RECOMMENDATION II: The State Library continue to support the computerization in the Regional Libraries.

Supporting Data:

- Increases in the number of readers, the volume of material for circulation, and expectations of more sophisticated service require the application of computers to some library tasks.
- Libraries serving the blind and physically handicapped must perform several unique functions and store much more information related to patron interests and use of materials. Many of these functions are performed best by computers.
- The two Regional Libraries have made sound investments of time and money in planning, evaluating, and operating computer systems.
- Returning to manual systems would be unrealistic and would represent a step backward which would have to be reversed at a future date.

RECOMMENDATION III. The State Library convert funding of the service at the regional libraries from formula-based to program-based funding.

Supporting Data:

- Advance planning and budgeting are required by program-based funding which provide the State Library with an input into its long-range planning for library development,
- The plan provides criteria for measuring progress toward objectives,
- The State Library has control over the state money it expends for the service,
- The Regional Libraries can evaluate their progress and modify their programs to better meet their objectives.

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INTRODUCTION

The State Library of Ohio is committed to providing high quality library service to the blind and physically handicapped in Ohio. It fulfills its commitment by working with other libraries and agencies to extend a full range of library services. It encourages libraries to develop quality services at the local level as well as providing planning, coordination, promotional, and consultant services to libraries, organizations, and public officials to assist them in this development. This study represents an evaluation of present services and it is one tool the State Library Board will use as it plans for the future of library services for the blind and physically handicapped.

In commissioning this study, the State Library Board established the following objectives:

- Evaluate the quality of services, especially user satisfaction
- Determine the cost-effectiveness of the computer systems in the two regional libraries

- Make recommendations for changes in patterns of service and funding, if any were deemed necessary.

This report represents the results of a user survey and studies of the existing service. The recommendations and conclusions are based upon the findings which are presented in detail in the body of the report.

BACKGROUND

The State Library Board has the responsibility under the Ohio Revised Code, Section 3375.01, for a statewide program of development and coordination of library services. Part of this responsibility is service to the blind and physically handicapped persons of the state.

In 1931, the Pratt-Smoot Bill was enacted which provided for a national program in which the Library of Congress was authorized to arrange with other libraries to serve as local or regional centers for the circulation and production of recorded books for the blind. Since 1931 the Cincinnati and Cleveland Public Libraries have served as regional libraries for the blind, and have distributed books produced by the Library of Congress. These libraries have tried to make library service to the blind and physically handicapped as effective as possible.

During the 1960's the Library Services and Construction Act focused on the needs of the blind and physically handicapped for library service, and provided some funding to stimulate local library service. These funds have supplemented state funds to help provide operating monies to the regional libraries. In 1978, the State Library Board authorized $319,888 for service to the blind and physically handicapped. The total state expenditure from 1965 through 1977 was $2,160,436.

Users of the service must meet certain eligibility criteria, given in the Code of Federal Regulations (36 CFR 701.10):

1. Blind persons whose visual acuity, as determined by competent authority, is 20/200 or less in the better eye with correcting glasses, or whose widest diameter of visual field subtends an angular distance no greater than 20 degrees.
2. Persons whose visual disability, with correction and regardless of optical measurement, is certified by competent authority as preventing the reading of standard printed material.
3. Persons certified by competent authority as unable to use standard printed material as a result of physical limitations.
4. Persons certified by competent authority as having a reading disability resulting from organic dysfunction and of sufficient severity to prevent their reading printed material in a normal manner.

The number of Ohio readers using the regional libraries has increased steadily from 3,000 in 1960 to 20,251 in 1978. These readers have toll-free telephone service to both of the regional libraries funded by the State Library. This telephone service enables the readers to receive personal service from librarians, an important backup in providing a full range of services to them.

The State Library Board is to be commended for its policy of continuous support of services to the blind and physically handicapped as it seeks to fulfill its responsibility to all Ohioans through sound planning for library development.

Methodology

This report was prepared by a Battelle team of library researchers, computer information specialists, and statistical analysts. The recommendations and conclusions are based upon information collected through a survey of Ohio users, interviews with librarians and other experts serving the blind and physically handicapped, attendance at national conferences, and a study of the literature on services to this special group.

I. Information Collection

In conducting the study, Battelle researchers visited the following:

- Regional libraries in Ohio: Cleveland and Cincinnati
- Regional library in a state without subregional libraries: Philadelphia, Pennsylvania
- Regional library in a state with subregionals: Richmond, Virginia
- Subregional library: Virginia Beach, Virginia
- Library of Congress, Division of Blind and Physically Handicapped
- Rehabilitation Services Commission of Ohio, Talking Book Program
- The Ohio School for the Blind

In addition, team members attended the presentation of the proposed "National Standards for Library Service to the Blind and Physically Handicapped" at the American Library Association Annual Conference and the National Conference of Librarians Serving the Blind and Physically Handicapped.

Interviews were conducted with regional librarians in 15 states, nine of which presently offer service through subregional libraries (Alabama, Florida, Georgia, Illinois, Kansas, Massachusetts, Michigan, New York, North Carolina, Virginia) and six of which offer service only through regional libraries (Iowa, Missouri, Pennsylvania, Tennessee, Texas, Washington). In addition, interviews were conducted with 16 local librarians and service agency representatives in Ohio.

Documents from the State Library of Ohio, the regional libraries in Cincinnati and Cleveland, and the Library of Congress were studied, as well as published studies of the talking book program in New York, Massachusetts, and Maryland, and earlier studies of the entire program in Ohio and the cassette program only.

Telephone interviews were conducted with a sample of 214 Ohio users based on age, handicap, and geographic locations. In addition, 26 students at the Ohio School for the Blind completed a large-print questionnaire. Battelle researchers also appeared on "Limelight", a local call-in radio program for the blind in the Columbus area.

II. Data Analysis

The results of the user questionnaires and interviews were keypunched for analysis by computer, using the Statistical Package for the Social Sciences (SPSS). These results are given on the following pages in the form of charts and tables. Our recommendations and conclusions are tied directly to these results.

PART I: PRESENT SERVICE

Library Services to the Blind and Physically Handicapped in Ohio

Blind and eligible physically handicapped readers in Ohio are served through regional libraries in Cleveland and Cincinnati, which circulate materials, and by the Ohio Rehabilitation Services Commission (ORSC), the agency which distributes machines for use with recorded materials.

Regional Libraries

With the origin of the national program for library services to the blind and physically handicapped in 1931, two Ohio libraries were among the initial group of designated regional libraries. The Cincinnati Public Library was assigned a service area including Kentucky, Tennessee, and Ohio, south of U.S. Route 40. The remainder of Ohio became the service area for the Cleveland Public Library. When Kentucky and Tennessee developed their own regional libraries, the service area of Cincinnati was reduced to that part of Ohio south of Route 40. An unwritten agreement between the two regional libraries, the machine lending agency, and the State Library of Ohio in 1971 altered the service area boundary to conform to county lines, assigning six of the counties crossed by Route 40 to Cincinnati and four to Cleveland. The 55 counties presently served by the Cleveland Public Library and the 33 counties served by the Public Library of Cincinnati and Hamilton County are shown in Map 1 on page 9.

Each of the Regional Libraries is equipped with a computerized circulation system and in-out WATS lines for ease of communication between library and patron. Each library maintains deposit collections and local service points within its area of service.

The Cleveland Regional Library

The Cleveland Regional Library has the larger responsibility in terms of counties and number of readers served. In 1977, it served 13,999 readers from a total collection of 151,207 talking books, braille books, magnetic tapes and cassettes; an average of 10.8 items per reader. These items, however, comprise many fewer actual titles, since multiple copies of each title are stocked.

In Table 1, the number of titles held by the Cleveland Regional Library is given for different types of media. There are many copies of each title. Total number of "items" means different things for different media. Total talking books means the total copies of all titles. Total braille books means the total number of volumes. There may be several volumes to one copy of a book. The number of tapes refers to containers. A container may hold more than one tape.

TABLE 1. COLLECTION SIZE - CLEVELAND REGIONAL LIBRARY

	NUMBER OF TITLES 1977	TOTAL NUMBER OF ITEMS (Including items in deposit or demonstration collections) Counted by	1977
Talking Books	7,612	Number of copies	94,012
Braille Books	7,654	Actual volumes	30,616
Magnetic Tapes	800	Number of containers	2,017
Cassette Tapes	1,217	Number of containers	24,562

In addition, the Regional Library in Cleveland locally produced 79 titles in braille and on tape. Total circulation of materials was 281,815, or 20.13 items per reader. The regional library also distributed 24 machines.

In addition to the collections held at the Regional Libraries there are deposit collections at local public libraries, hospitals, schools, or institutions to provide more localized and community-directed service than is possible at the regional library. A deposit collection in the Cleveland area is defined as a rotating collection of talking books that circulate to readers at a given location within the Cleveland service area. Machines are available at these locations to demonstrate how talking books work. Readers can be recruited at the local deposit collection agency. There are 64 such collections of varying size in the Cleveland service area (See Map 1, page 9).

In fiscal 1977 (October-September), deposit collections accounted for 9411 circulations, exclusive of large print materials or 3.6 percent of the total circulation during that time.

There are also 509 demonstration collections consisting of a machine and playable materials to demonstrate services to potential patrons. These demonstration points may borrow a few materials from the Regional Library, but do not circulate materials to readers (See Map 2).

Since 1975, an LSCA project has funded in-WATS and out-WATS telephone lines at the Cleveland Regional Library. There are more than 10,000 out-of-county readers served by the Regional Library in Cleveland. Without WATS-line service, these readers would be restricted to long-distance calls or letter-writing to communicate with the Regional Library.

DEPOSIT COLLECTIONS (UPPER FIGURE) AND DEMONSTRATION COLLECTIONS (LOWER FIGURE) OF TALKING BOOKS AND CASSETTES

Heavy Line Denotes Division Between Area Served by Cincinnati and Area Served by Cleveland

MAP 1

During the initial 2-1/2 years of WATS service, 14,529 calls were received from readers, an average of 468 calls per month. More than half of these calls (7,569) were requests for specific materials. A free call-in capability is a valuable adjunct to an automated circulation system, allowing readers to place requests and change their interest profiles rapidly and accurately. Only three percent of the calls (472) were classified as "complaints".

The Cincinnati Regional Library

In 1977 the Cincinnati Regional Library served 6,252 readers with a total collection of 82,122 talking books, braille books, magnetic tapes, and cassettes; an average of 13.1 items per reader. Table 2 gives titles and total holdings for the regional library at Cincinnati. Total items are counted in the same fashion as at Cleveland, except for talking books, which are counted by container. There may be more than one container in a "copy" of a book, but this only occurs in a small percentage of cases. A total count of containers will be only slightly larger than a count of copies.

TABLE 2. COLLECTION SIZE - CINCINNATI REGIONAL LIBRARY

	NUMBER OF TITLES 1977	TOTAL NUMBER OF ITEMS (Including items in deposit or demonstration collections) Counted by	1977
Talking Books	6,947	Number of containers	52,420
Braille Books	3,730	Actual volumes	13,758
Magnetic Tapes	3,510	Number of containers	5,858
Cassette Tapes	1,843	Number of containers	10,086

Circulation in Cincinnati was 125,338 in 1977, up 15 percent from 1976. Average circulation per reader was 20.05.

A deposit collection in the Cincinnati area is defined as any collection of talking books and machines that borrows at least one item from the Cincinnati Regional Library during the course of a year. These items may then be circulated to readers from the deposit collection. Only one circulation, then, is necessary to designate a location as a deposit collection. A demonstration collection is a machine and a talking book to show readers the operation of the equipment and demonstrate the service. No circulation of materials takes place. There are only nine demonstration collections, two in Hamilton County and seven in other areas served by Cincinnati. Deposit collections, however, total 294. Most of these are concentrated in areas of high readership as demonstrated by the following table:

TABLE 3. DEPOSIT COLLECTIONS IN HIGH READERSHIP COUNTIES SERVED BY CINCINNATI

County	Readership	Deposit Collections
Hamilton	2,096	88
Montgomery	891	29
Butler	392	21
Lawrence	246	20
Ross	224	15
Clark	323	14
Clermont	184	10

Deposit collections accounted for 9,033 circulations, exclusive of large print materials, or 7.2 percent of the total circulation for the Regional Library.

Local Service

The deposit collections placed by the Regional Libraries serve a variety of purposes. Some hospitals and nursing homes maintain collections for the use of their patients who are eligible for the service. Organizations for service to the blind have talking book machines for demonstration to potential users of the service. On the other end of the spectrum, many local public libraries have integrated a local deposit collection of talking books into their full library service program. An example is the Toledo-Lucas County Public Library. From a collection of 386 disc and cassette books, Toledo circulated 2,686 items from January through October 1978. In addition, they delivered 48 talking book machines and processed 23 new reader applications during this time period. A smooth working relationship has been established with the Toledo Society for the Blind, the machine sublending agency for the Toledo area. Service to the blind and physically handicapped is part of the regular bookmobile, homebound, and senior citizen programs as well.

Many public libraries have achieved some measure of integration of service to the blind and physically handicapped with other library services. In many cases, special funding can be obtained for providing local services aimed at this target community.

Total library service to the local community can be enhanced by skillful use of deposit collections from the Regional Libraries for the Blind and Physically

Handicapped. On the other hand, local libraries can publicize the overall regional library program and encourage the participation of their eligible users. This effort should include the full participation of other local agencies serving the blind and physically handicapped population, including machine sublending agencies and the radio reading services for the blind operating in Columbus, Cincinnati, Cleveland, Akron, Youngstown, and Toledo.

Machine Lending Agency

In many states the Regional Library for the Blind and Physically Handicapped is also the agency that coordinates the lending of machines for use with the talking books and cassettes. The advantage of this arrangement is that the total library service is housed in a single agency. In Ohio, however, machine lending is handled by the Ohio Rehabilitation Services Commission, while the Regional Libraries lend the materials. There are distinct advantages to be gained from such a division of tasks:

- Regional librarians can be freed from the management of machine lending and maintenance, and devote their attentions completely to the provision of library services to users.
- A direct connection is established between the library community and the rehabilitation services agencies.
- A ready-made network of local contact points, already oriented to needs of the handicapped, can be used to publicize the regional library services and make initial reader contacts.

The disadvantages of this division of tasks are:

- Coordination is required between the Regional Libraries and the machine lending agencies.
- Users may be confused about which organization provides each service, and whom they should contact with problems.

In our judgment, the advantages to be gained by bringing the resources and expertise of two agencies to bear on this service far outweigh providing the service entirely through one agency.

The Rehabilitation Services Commission heads a network of ten Talking Book (machine) Lending Agencies and 32 associate sub-lending agencies. A sub-lending agency is a public or private organization working with the handicapped which serves as a multi-county distribution point for talking book machines. The sub-lending agency performs referral services, explains the program to eligible users, delivers and demonstrates the talking book machines, and collects defective machines for repair. Approximately half of the sub-lending agencies also will deliver the initial talking books for a registrant to use while waiting for the first shipment from the appropriate Regional Library.

Sub-lending agencies carry an inventory of machines and have the authority to distribute, exchange, and cancel equipment. They may provide space for storage and repair of machines.

Associate sub-lending agencies also distribute talking book machines. They usually do not have an inventory as large as that of a sub-lending agency, they do not provide repair space, and they only serve persons

AREAS SERVED BY TALKING BOOK MACHINE SUB-LENDING AGENCIES AND REGIONAL LIBRARIES

MAP 2

Talking Book Lending Agencies

1. Ohio Rehabilitation Services Commission, Columbus
2. Summit County Society of the Blind, Akron
3. Philomatheon Society of the Blind, Canton
4. Cincinnati Association for the Blind, Cincinnati
5. Cleveland Society for the Blind, Cleveland
6. Goodwill Industries of Dayton, Inc., Dayton
7. Center for Sightless, Inc., Elyria
8. Toledo Society for the Blind, Toledo
9. Youngstown Society for the Blind, Youngstown
10. Zanesville Bureau of Services for the Blind, Zanesville

in the county in which they are located. (See Map 3). A full list of sub-lending and associate sub-lending agencies will be found in Appendix 2. All the sub-lending agencies are social service agencies, while 18 of the associate sub-lending agencies are social service agencies and 14 are libraries.

Talking book machines are repaired by members of the Telephone Pioneers of America. Approximately 30 members of this group, all skilled telephone repairmen and engineers, donate their time to repair machines in seven locations in Ohio. This volunteer group repaired 1,347 record players and 531 cassette players in fiscal year 1978.

The Ohio Rehabilitation Services Commission reports that they have placed 13,000 record players and 5,000 cassette players in the homes of readers, with a reserve inventory of 3,000 machines. Approximately 1,000 machines are reclaimed per year when eligible readers die or discontinue service.

Readership

The Library of Congress has estimated that approximately 1.5 percent of the general population is blind or physically handicapped. This is a national average and will vary within a given state. Used with caution, this figure may be a useful benchmark for regional librarians and the State Library to determine the number of potential users in Ohio.

Application of the Library of Congress' formula yields an estimate of approximately 160,828 eligible readers in Ohio. There were 20,251 readers served by the two regional libraries in 1977, or 12.6 percent of this estimated number. Map 3, page 17, gives the number of readers served in each Ohio county in 1977 as well as the percentage of the eligible population

READERSHIP BY COUNTY (UPPER FIGURE)
PERCENTAGE OF ELIGIBLE READERS SERVED (LOWER FIGURE – ESTIMATED)

1977

MAP 3

this number of readers represents. The objective adopted by the State Library of Ohio is that the Regional Libraries serve 25 percent of the eligible readers, a figure double the present statewide percentage. The map shows that only five counties out of 88 have attained that percentage. Henry County serves the greatest percentage, 51.7 percent.

It can be seen that in the great majority of counties, less than 15 percent of the estimated eligible population is presently served. Several points, however, emphasize the tentative nature of this conclusion. First, the Library of Congress' estimate for the nation may not accurately reflect the number of eligible readers in any given Ohio county. Second, the necessity of admitting that they cannot see well enough to read may discourage potential users from requesting the service. Third, in the case of local deposit collections, particularly in institutions, it is difficult for the Regional Library to tell how many individuals within the institution are actually being served. Not all users in institutions may be individually registered with the Regional Libraries or the machine lending agency. Thus, the accuracy of the count of readers served is difficult to determine. Fourth, different criteria are used for reporting readership to the Library of Congress than are used for reporting readership to the State Library. The Library of Congress counts readers individually for each type of material and adds the results to get total readership. Thus, a reader of both cassettes and discs will count as two readers to the Library of Congress, but only one to the State Library.

The Library of Congress has encouraged a structure of service based on subregional libraries. These libraries are local libraries serving at least 200 readers with current titles of talking books. Back-up and coordination services are provided by the Regional Libraries. Statistics show that states with subregional service experience increased readership. While the question of subregional service is discussed later in this report, two points should be made here: 1) figures released by the Library of Congress in 1977 compare readers served to eligible population in states with subregional libraries and states without subregional libraries. These figures show that the average percentage of eligible population served is almost exactly the same for states with subregionals and states with no subregionals. The rate of increase over four years is greater in states with subregional libraries. 2) There has been a substantial increase in readers served in Ohio in the past five years, even without subregionals. Tables 5 and 6 detail this growth.

It has been suggested that the rapid growth in the number of readers served by the Regional Library in Cincinnati reflects an intensive publicity effort by the machine lending agencies and sub-lending agencies at the local level. This means that a localized service network is already in place and able to generate new readership when given effective direction and inspiration to do so. Coordinated efforts to promote service at the local level in Ohio can pay dividends when existing deposit collections, participating libraries, machine lending agencies, and service agencies for the blind and physically handicapped are fully utilized.

TABLE 4. COUNTIES AND ESTIMATED PERCENTAGES OF ELIGIBLE READERS SERVED

Regional Library	Counties with 25% or More Served	Counties with 15-25% Served	Counties with 10-15% Served	Counties with Less than 10% Served
Cincinnati	2	6	16	9
Cleveland	3	7	19	26
TOTAL	5	13	35	35

TABLE 5. READERS SERVED, 1973-1977

	1973	1974	1975	1976	1977
Cleveland	11,232	11,528	12,220	13,269	13,999
Cincinnati	3,408	4,401	5,217	5,728	6,252
TOTAL	14,640	15,929	17,437	18,997	20,251

TABLE 6. PERCENT GROWTH, 1973-1977

	1974	1975	1976	1977	1973-1977
Cleveland	2.6	6.0	8.6	5.5	24.6
Cincinnati	29.1	18.5	9.8	9.1	83.5
Statewide	8.8	9.5	8.9	6.6	38.3

Funding

Materials for circulation to blind and physically handicapped readers are provided by the National Library Service for the Blind and Physically Handicapped of the Library of Congress (NLS). Other expenses, including staffing, automation, and all operating costs of libraries in the network must be borne at the state and local levels. This does not mean that federal money does not partially fund the regional programs. According to figures released by the Library of Congress, 19 percent of the funding of the NLS network libraries in fiscal 1978 was from federal money distributed by state library agencies, predominately LSCA grants. By comparison, 67 percent of the funding was from state money, 9.8 percent from local money, 3.6 percent from gifts and bequests, and 0.6 percent from other sources. In all, $14,865,239 was spent on the program in 1978 to support 157 network libraries.

Most of the local money (58%) that goes into the NLS network helps fund subregional library service. Most state money (88%) and most federal money (74%) helps fund Regional Library service. This breakdown reflects the state and national responsibilities for area-wide service to the blind and physically handicapped and responsibilities for local service.*

Since 1965 the regional libraries in Ohio have received a total of $2,160,436 in state money for services to the blind and physically handicapped. During the same period a total of $536,820 in LSCA funds has been granted to the Regional Libraries to supplement state aid and enable automation projects to proceed at both libraries.

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* Source: Sources of Funding for Regional and Subregional Libraries of the NLS Network, 1978 (Library of Congress/ NLS, 1978).

The Rules of the State Library Board (Chapter 2, Section 3375-2-05-C) provide for reimbursement to Ohio's Regional Libraries in accordance with a prescribed formula. Both Regional Libraries receive a base payment of $25,000 and a per capita payment of $18 for each reader served who resides outside the county in which the regional library is located. No Regional Library, however, may receive more than is actually spent. According to the State Library, the formula is based on six premises:

1) Regional facilities provide economies of scale at a savings to taxpayers.
2) Special extension services to regional areas are not the responsibility of local taxpayers, but of the state.
3) Public libraries should be encouraged to develop locally funded programs beyond the scope of Regional Library extension services.
4) In accordance with "3" above, Regional Libraries provide a greater depth of service to readers in their own counties, a responsibility and local function of any public library.
5) The Ohio General Assembly does not intend to fund Regional Libraries beyond actual costs incurred.
6) Regional Libraries have incurred expenses in good faith, expecting reimbursement; they should not be forced to suffer losses by major formula revision made after these expenditures have been incurred.

This formula was developed from an initial allocation of $13.00 per reader in 1960. In 1970 a

base payment of $15,000 was added a
to $25,000. In the meantime, per c
out-of-county readers had reached $

The table shows the exten
money has been used to supplement s
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has funded automation projects
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TABLE 7. STATE LIBRARY SUBSIDY

To Regional Libraries for the Blind and Physically Handicapped

For Service in Calendar Year	Expenditure Reported	State	LSCA	% Increase (Total)	Total
1965 Cincinnati		$ 14,001			$ 14,001
Cleveland		39,286			39,286
					53,287
1966 Cincinnati		15,431			15,431
Cleveland		41,340		6.5	41,340
					56,771
1967 Cincinnati		18,960			18,960
Cleveland	$ 56,000	53,910		28.4	53,910
					72,870
1968 Cincinnati		23,115	$ 1,375		24,490
Cleveland	63,450 (est)	57,045	$ 3,340	16.5	60,385
					84,875
1969 Cincinnati	31,770	29,688	1,445		31,133
Cleveland	71,193	66,476	4,437	20.2	70,913
					102,046
1970 Cincinnati	32,965	30,861	2,261		33,122
Cleveland	84,108	75,333	8,075	14.2	83,408
					116,530
1971 Cincinnati	53,489	31,286	2,019		33,377
Cleveland	119,640	96,991	12,971	23.0	109,962
					143,339

TABLE 7. (Continued)

For Service in Calendar Year	Expenditure Reported	State	LSCA	% Increase (Total)	Total
1972 Cincinnati	$ 59,289	$ 38,698	$ 3,247		$ 41,945
Cleveland	146,885	108,466	24,769	22.2	133,235
					175,180
1973 Cincinnati	65,145	43,764	9,367		53,131
Cleveland	181,184	120,944	33,796	18.7	154,740
					207,871
1974 Cincinnati	77,176	76,391	785		77,176
Cleveland	210,128	179,440	2,124	24.5	181,564
					258,740
1975 Cincinnati	124,407	85,393			85,393
Cleveland	246,642	190,951		6.8	190,951
					276,344
1976 Cincinnati	119,192	86,406	3,406		89,812
Cleveland	289,652	193,675	9,208	5.9	202,883
					292,695
1977 Cincinnati	99,372	99,372			99.372
Cleveland	304,372	220,516		9.3	220,516
					319,888

Delivery Patterns

Libraries for the blind and physically handicapped differ from libraries for the rest of the population in that their service is predominately a warehousing and mail order service rather than a walk-in service. Materials for the blind and physically handicapped are sent free of charge through the mail and are entirely dependent on the U.S. Postal Service for prompt and safe delivery.

Free materials for the blind and physically handicapped are handled through regional bulk mail centers in major cities of the U.S. Ohio is served by three bulk mail centers as illustrated in Map 4, page 28. Cleveland and northeastern Ohio are served by the bulk mail center in Pittsburgh. Toledo and northwestern Ohio are served through Detroit, and the remainder of Ohio is served by a bulk mail center at Cincinnati. Each bulk mail center processes all packages originating in its area of responsibility. For example, a talking book sent from Cleveland to Columbus travels the route Cleveland-Pittsburgh-Cincinnati-Columbus. Similarly, a package sent from Cleveland to Toledo travels the route Cleveland-Pittsburgh-Detroit-Toledo. A package sent from Cincinnati to Columbus travels the route Cincinnati-Columbus.

The Regional Library at Cincinnati benefits from the availability of a bulk mail center in Cincinnati which directly serves almost the entire service area of this regional library. In some cases it may provide even faster mail service than a local library could provide its local patrons. For example, a package traveling from one end of Dayton to the other may travel Dayton-Cincinnati-Dayton, while the same package originating in Cincinnati travels directly to Dayton.

To determine whether these differences in the bulk mail distribution system make a significant difference in the delivery of library materials for the blind and physically handicapped, a mail experiment was performed. Shipments were made from both Regional Libraries on the same days to the same addresses. Four receiving locations represented each of the areas covered by the three bulk mail centers and also both Regional Library service areas. These locations were Akron, Toledo, Dayton, and Columbus. Materials were received from both Regional Libraries on the same date, within five calendar days from mailing. There was no difference in delivery time between the two Regional Libraries.

AREAS OF OHIO SERVED BY BULK MAIL CENTERS (BMC'S)
IN CINCINNATI, PITTSBURGH, AND DETROIT

MAP 4

Telephone Survey of Users of Braille and Talking Book Program in Ohio

Methodology

A random sample of the users of the Braille and Talking Book Program in Ohio was developed from computer printouts of registered borrowers of the Regional Libraries for the Blind and Physically Handicapped in Cleveland and Cincinnati.

The sample represented users of the program in four geographic areas: Cuyahoga County, the other counties served by the Cleveland Regional Library, Hamilton County, and the counties served by the Cincinnati Regional Library. Within these geographic areas, four age groups (juvenile, aged 0-13; young adult, aged 14-21; adult, aged 22-65; and elderly, aged over 65) and the disabilities which qualify a person for use of the program (blindness, visual impairment, physical handicap, learning disability) were identified. Not every category was filled; certain combinations do not exist in any appreciable member in Ohio (e.g., elderly learning disabilities). In all, 214 persons were surveyed by telephone. The questionnaire is attached in Appendix 1.

The questionnaire was designed to assess the person's knowledge and use of the service, the person's satisfaction with it, and ways it could be improved. No attempt was made to collect personal data.

Use of Service

Since the 214 names were drawn from the lists of registered borrowers, it is no surprise that 94 percent of the persons queried are users of the service. Twelve persons said they had used the service previously but

are not current users because their needs are satisfied in other ways or because they were infrequent users when they did receive materials. No one said they no longer used the service because they were dissatisfied with it. Only five persons registered for the service indicated that they had never actually used it. Of those, two indicated that they don't need it and three said they don't want it.

Of the 214 persons surveyed, 125, or 63 percent, have been using the program for 1-5 years. Of the remainder, 15 percent have used it for three months to one year and 15 percent for more than five years. Of those surveyed, only five percent are new to the program during the past three months.

Those surveyed were asked whether they use talking books or braille most often and what type of machine they have. The majority of the people (95%) use talking books most often. Only nine respondents (5%) indicated that they use braille most often. Most of the users have record players (44%) rather than cassette players (14%) but many (41%) have both types of machines. Only two of the people surveyed (1%) do not have a machine supplied by the program.

Books are ordered from the monthly catalog by 63 percent of the users. Special orders are placed by 24 percent of the users while 14 percent use both methods of ordering. Most of the users (72%) always have a supply of unread books on hand.

Awareness and Satisfaction

"Social workers or agencies serving the blind" were most often cited as the source for information about the service. "Friends, relatives or neighbors", and

"teachers or school" are the next most often cited sources of information about the program. Only 8 percent of those surveyed learned about the program through the public library. (See Table 8)

The persons surveyed were asked 1) if they knew about other services offered by the program, and 2) if they used those services (see Table 9). The majority of the people know that the services exist but use varies from service to service. For example, 44 percent do not know about the toll-free telephone service.

TABLE 8. AWARENESS

How did you find out about the Program?	Number of Responses	% of Total
Social worker or agency or agency for the blind	71	36
Friend, relative, or neighbor	50	26
Teacher or school	27	14
Public Library	15	8
Rehabilitation Services Commission	11	6
Medical personnel or facility	9	4
Radio or TV	5	3
Publication	1	5
Other	7	4
No answer	18	-

TABLE 9. USE OF SERVICES

Service	% Know About	% Use
Recordings of popular magazines	75	37
Talking books or cassettes	99	93
Braille materials	81	13
Toll-free telephone calls	56	25
Special recordings	63	30
Books not at regional library	40	12

The persons surveyed were asked to respond yes or no to indicate whether they were satisfied with quantity and variety of the braille and talking book material available. (See Table 10).

TABLE 10. SATISFACTION WITH MATERIALS

Service	Yes (%)	No (%)
Enough variety of topics available	89	11
Enough books on each topic	89	11
Materials current enough	89	11
Sound quality good enough	92	8
Do you get books which meet your interests?	87	13

The users of the service were asked to indicate whether they are generally satisfied or have some complaint with various services. (See Table 11).

TABLE 11. SATISFACTION WITH SERVICE

Service	Satisfied (%)	Complaint (%)
Courtesy of librarians	100	0
How tapes work	87	13
Speed with which machines are replaced	92	8
Availability of librarians	97	3
Selection of magazines	91	9
Availability of braille materials	90	10
Condition of machine	91	9

Users also were asked about how long it takes to receive books after they are ordered, and whether or not they are satisfied with the speed of delivery. Most of them (70%) receive their books in two weeks or less and 20 percent receive them in 2-3 weeks. Ten percent report that it takes over three weeks for books to reach them. The majority of the users (88%) feel that this time span is all right while 12 percent think it is too long.

Most users (88%) report that it took two weeks or less to receive the machine after it was ordered; 19 percent received it the same day. For the rest it took between 20 and 90 days to receive the machine. Most

users (91%) rated the condition of their machine as good; that is, they had no complaint about how it works. Only five users (2%) indicated the condition is poor. Ninety-seven percent of the users said that they understood the machine demonstration.

They were asked whether they used services of the local public library in addition to the braille or talking book program of the regional library. The majority of the people do not (52%) but 46 percent indicated that they do use other services such as records, cassettes, large print books, or books for family members.

Those surveyed were asked whether it is important to actually visit the library or if talking on the phone to a librarian is enough. Talking on the phone was enough for the majority of those responding. (See Table 12).

TABLE 12. IMPORTANCE OF VISITING LIBRARY

	Number of Responses	% of Total
Visit	14	8
Talk on Phone	114	62
Both	11	6
No difference	44	24

Since both regional libraries have toll-free telephone lines, users were asked how often they had called the libraries in the past four months. Of those responding, most (66%) do not use the toll-free line. (See Table 13). This finding is influenced by two factors: 1) 44 percent of the users indicated they did not know about the toll-free line, and 2) users call only when they have specific requests or problems.

TABLE 13. USE OF TOLL-FREE TELEPHONE LINE

Times Called	Number of Responses	% of Total
Once a month	42	22
2-3 times a month	12	6
Weekly	4	2
More than once a week	6	3
No calls	127	66

Users were asked to rate the overall program. An overwhelming majority (98%) rated the program as good to excellent. Only two people rated it poor and three rated it fair. Of those who rated it poor, one indicated disappointment with the lack of pre-school books, and the other indicated a recurring problem of receiving the same books. (See Table 14).

TABLE 14. RATING OF PROGRAM

Rating	Number of Responses	% of Total
Excellent	103	52
Very good	63	32
Good	28	14
Fair	3	1
Poor	2	1

Conclusions

Based on the data collected in the user survey, we conclude that the program is fulfilling its objectives of meeting the needs of most readers. The majority of the users surveyed are highly satisfied with the service and feel that it needs little improvement. The users say that they have little need to visit the library offering the service. Most are satisfied with telephone contact.

The validity of these responses has been questioned on two grounds:

1) readers have no way of knowing whether they would receive improved service under a different structure, and
2) the population is primarily elderly and uncomplaining and fears that complaining could cause the service to stop.

The users have indicated that the present structure meets their needs. Further, the majority state they have no desire or are unable to visit a local library; that telephone contact is sufficient.

That the elderly are less complaining than other segments of the population does not invalidate their opinions; the younger users who were interviewed also feel the service meets their needs.

Evaluation of Present Service and Recommendations

At the beginning of the study, Battelle identified the goals and objectives for the talking book service and the criteria that would be used to evaluate progress toward these goals by interviewing representatives of the State Library, the Regional Libraries, the machine lending agency, and the Library of Congress. From these interviews, the following list was devised:

Goal/Objective For The Service	Measure
1. Increased readership	Readership levels over past 5 years
2. 25 percent of eligible readers served	Percent of eligible readers served
3. Effective publicity about the service	User knowledge of services; non-user data from a study by the American Foundation for the Blind
4. High reader satisfaction	Reader satisfaction
5. Reader-library communication	Use of WATS lines
6. Effective dedicated automation	Review automation efforts
7. Adequate delivery speed	User satisfaction with delivery; test mail shipments
8. Quick efficient machine delivery and repair	User satisfaction with machine
9. Efficient record-keeping	Review records
10. Equitable funding	Funding levels

Goal 1: Increased Readership

Readership in Ohio has increased 38 percent over the past 5 years. The regional librarians have predicted an annual increase in readers of 7-8 percent for the next two years. Between 1976 and 1977 Ohio's readership increased by 6.6 percent while the national average increase was 4.4 percent. By this measure, Ohio is above the national average in readership increase. An effective publicity campaign may give a further impact to readership growth, as indicated in Goal 3 below.

Goal 2: 25 Percent of Eligible Readers Served

This goal has been affected by a recent change in the Library of Congress estimate of the number of eligible readers in the general population. With the new estimate of 1.5 percent, the regional libraries serve 12.6 percent of the eligible population, only half the goal. Achievement of this goal is closely related to the achievement of Goal 3.

Goal 3: Effective Publicity About the Service

The user survey shows that only 56 percent of the users are aware of the toll-free telephone that links them to the regional library; only 40 percent were aware that the regional libraries could supply additional materials to them by interlibrary loan from other libraries.

Preliminary findings of a study by the American Foundation for the Blind (AFB) indicate that there exist certain target groups that should receive special attention in a publicity effort (e.g., the institutionalized).

The Battelle user survey showed that social agencies are the most effective promoters of the service. Few readers are learning about the service from teachers, librarians, and medical professionals. These people can play an important role in bringing the service to the attention of potential readers. Ophthalmologists, for example, could make a significant contribution by recommending the talking book service to their patients who may be eligible.

The Ohio Rehabilitation Services Commission has an operating network of local agencies that can take a leading role in this publicity effort, as they have in the past. All public librarians should be informed about the service by the Regional Libraries so that they can take an active role in referral and registration of readers.

RECOMMENDATION: The regional libraries and the machine lending agencies, in cooperation with local public libraries, should increase and coordinate their efforts to promote the service through local publicity campaigns.

Goal 4: High Reader Satisfaction

The user survey showed very high user satisfaction as reported in Tables 10, 11, and 14 above. For this reason, we have no recommendation. This goal is being met.

Goal 5: Reader Communication

The user survey shows that most of the readers consider telephone contact important and sufficient for their communication with the regional library. The WATS capability enables smooth and quick communications between librarian and user. This communication link is very

important to users who cannot come to the library for a face to face interview. Since most users who would incur long distance charges live outside the counties where Regional Libraries are located, it is not reasonable to expect the Regional Libraries to pay for this service.

RECOMMENDATION: The State Library should continue to fund the WATS lines for both Regional Libraries. Publicity should be increased to make users aware of the toll-free telephone service.

Goal 6: Effective Dedicated Automation

New automation systems dedicated to library service to the blind as part of a total library automation effort for the administering library are being developed at both regional libraries. Details are given in "Part II. Regional Library Computer Systems Evaluation". Automation is a major component of library services to the blind, and continued funding is needed to ensure its coordinated development.

RECOMMENDATION: The State Library should continue to support automation efforts as required by the Regional Libraries, with the involvement and limitation detailed under "Alternative Service Funding" later in this report.

Goal 7: Adequate Delivery Speed

The user survey showed that users are generally satsified with the time required to delivery materials. Since 72 percent of readers report that they always have enough books on hand, delivery speed is not a problem.

Goal 8: Quick Efficient Machine Delivery and Repair

Repair of talking book machines and cassette players is performed free of charge by the Telephone Pioneers of America, skilled telephone repairmen. In FY 1978, these volunteers repaired 1878 machines. The great majority of users surveyed reported that their machines were in good condition (91%). Machines in fair condition were reported by seven percent, while two percent reported machines in poor condition. Many users (19%) report that they received machines with the initial visit of a service representative. A further 48 percent received their machine within a week after initial visit. Machine demonstrations were understood by 97 percent of users who responded indicating that users are satisfied with the condition of their machines and the efficiency of delivery. It is our conclusion that the present service is meeting this goal.

Goal 9: Efficient Record Keeping

The State Library of Ohio is kept informed of service progress by regular reports, certain statistics, and costs submitted by the Regional Libraries. To be able to understand the progress at each Regional Library and compare figures, it is necessary that the State Library receive comparable reports and statistics. The definitions of the items that are reported should be the same for both libraries reporting.

Examples of records which require careful definition are:

- Total "items" held in collections. These may be counted by copies of titles or by total number of containers
- "Demonstration collection" and "deposit collection", currently counted differently by the two regional libraries
- "Total costs" - definitions should be given for what items are to be included or excluded (e.g., computer costs), what level of administrative costs are to be reported, and the like
- "Readership" - definition must be given for how readers are to be counted and reported.

RECOMMENDATION: The State Library should institute a policy of standardized record-keeping and reporting, so that any time a piece of information is requested, comparable answers will be received from both Regional Libraries.

Goal 10: Equitable Funding

Concerns have been voiced in both regional libraries about equitable funding, specifically 1) reimbursement for readers within Hamilton and Cuyahoga counties and 2) quarterly reimbursement as opposed to reimbursement at the end of the year in which costs were incurred. A program budgeting approach with quarterly reimbursements is recommended. The options are discussed in "Alternative Service Funding" later in this report.

Summary of the Goals

Of the 10 goals outlined at the beginning of this section, six are being met (Goals 1,4,5,6,7, and 8), two are being approached (Goals 2 and 3), and the remaining two are discussed in further detail elsewhere in this report. The working relationships between the Regional Libraries, the State Library, the machine agency, and the Library of Congress are harmonious and facilitate the reaching of goals set for the service. This dedication and enthusiasm work to benefit the blind and physically handicapped population of the state.

PART II. REGIONAL LIBRARY COMPUTER SYSTEMS EVALUATION

Why Evaluate the Computer Systems?

The State Library of Ohio is a key agent in the provision of library service to the blind and physically handicapped. It has the legislative responsibility to oversee library development in the state. It is held accountable for state and federal money spent in the accomplishment of this goal. At the same time, local libraries are responsible for the provision of library services in their individual communities. The State Library is in the position of coordinating statewide library development while maintaining a laissez-faire policy towards local initiative. Since local development can benefit from state and federal money, the State Library as administrator of these funds has a responsibility for their prudent expenditure.

Automation at the Regional Libraries for the Blind and Physically Handicapped affects the State Library in its roles as a coordinator of library development and as administrator of state and federal funds. Evaluating the Regional Libraries' computer systems from the State Library point-of-view is a means of determining how well the automation is supporting the service and assessing the value received from federal money.

Increases in the number of readers, the volume of material for circulation, and expectations of more sophisticated (faster, more accurate, more considerate) service require the application of computers to some library tasks.

The Battelle Study

In its Request for Proposal the State Library of Ohio stated as one of the objectives of the study determining "the cost-effectiveness of the computer systems in the two regional libraries". Battelle's proposal addresses this issue, stating that the purpose of this evaluation is to "clarify the role computer systems ought to play . . . in view of cost and value added". Specifically, the proposal states that Battelle will:

1. Examine the capabilities of the computer systems and how well these are utilized
2. Show how utilizing these capabilities contributes to meeting the objectives of the service, and how much this costs
3. Show how these systems have been funded and where the weaknesses, if any, in this arrangement are
4. Show how the development of these systems fits in with the Library of Congress' plans
5. Fit the computer operations into the alternative service configurations.

After award of the contract, subsequent meetings between Battelle and State Library staff provided some elaboration of these objectives. Some primary concerns of the State Library were:

- What new systems development is taking place in the Regional Libraries and how will this affect the present service?
- To what extent will the systems development require state or local funds?

- Since a significant amount of state and federal money has already been applied to the computerization projects in both libraries, has this money been spent wisely, and why do the two projects in Cleveland and Cincinnati have such different funding requirements?
- Should both regional libraries use the same computer system?

With this general focus, it is important to highlight what the study is not:

- A comparative analysis of the hardware or software chosen and developed by both libraries,
- A performance audit of the data processing activities,
- A critique of the philosophies or justifications for applying the computer in certain situations,
- A prescription or recommendation for a specific computer system or a comparison of available systems.

Elements of an Automated Circulation System for the Libraries for the Blind and Physically Handicapped*

Generally, library circulation systems focus on the control of materials, with no concern for information about the interests of patrons. Libraries serving the blind and physically handicapped, however, must perform several unique functions and store much more information related to patron interests and use of materials.

*Mr. Allen Deschere of the National Library Service for the Blind and Physically Handicapped provided a great deal of assistance in this area.

An ideal patron file should contain:

- Personal data - disabilities, alternate addresses
- Preferences for braille, talking books, or cassettes
- Frequency of service
- Profile of subject interests
- Restrictions on explicit descriptions of sex or violence
- Machines and accessories
- Magazine circulations
- Requests for specific titles
- Selection by computer or by librarian
- Has-had list - a record of books he/she has read
- Now-has list - a record of books the reader has on hand

The holdings (materials) file should contain:

- Author/title
- Subject profile
- Number of volumes/set
- Number of copies held
- Circulation history
- Requests pending - should distinguish between specific patron requests and advisor/computer selections

In addition to the patron and holdings files, machine accountability and magazine subscription files could be maintained.

The functions which an automated circulation system should perform vary with a particular library's requirements. Generally, however, the system should be able to:

- Update files, including patron information and holdings information
- Perform selection of materials based on patron preferences
- Charge and discharge materials, including generation of address labels
- Print overdues
- Reserve titles
- Perform manual charge-out
- Handle returns to the wrong library or damaged materials
- Generate mailing lists
- Perform magazine circulation functions
- Keep machine records, including receipt, storage, and repair
- Generate a variety of statistics in various report formats
- Create sorted lists of the files, e.g., bibliographies.

The History of Computerization at the Regional Libraries*

Both regional libraries in the State of Ohio were among the first in the country to implement computerized support of the service. The early driving forces behind the libraries' automation efforts were a growing readership and volume of materials and the necessity to quickly access and manipulate huge files of information about them.

Cincinnati Regional Library

In February 1976 Cincinnati began leasing an IBM System/3 Model 8 computer with assorted storage and display devices. The library director and his staff spent two years examining existing library automation systems. During this time a variety of alternatives were examined, including turnkey (off-the-shelf) systems, timesharing systems, and homegrown endeavors. In addition, a study by an outside consulting firm was completed. The unique requirements of the braille and talking book program demanded the development of a special system. The library at Cincinnati chose IBM to supply the equipment and to help develop the system software.

Computer programs were developed in late 1975 and early 1976 by library staff with the assistance of IBM. The basic system was operational by mid-April 1976 and performed routine circulation functions. Further programming permitted automatic subject selection and the production of statistical reports. Program modification and routine program maintenance has been a continuing effort of IBM systems staff and library

*Sources for these descriptions are annual reports, LSCA project reports and conversations with the library staff involved in the automation efforts.

personnel. The current system utilizes terminals for data input and system monitoring. All processing is done in batch mode as opposed to online (real time).

By 1977, the requirements for storing and processing the files had exceeded the capacity of the system. The problem could not be remedied by the addition of more remote (as opposed to internal) storage capacity, and the decision was made to purchase a system configured around the newer and more powerful IBM System 34. Programming enhancements planned for the current system were postponed, although some file reconfiguration was accomplished to allow the library's operation to continue without interruption.

Cleveland Regional Library

Cleveland was among the first regional libraries in the U.S. to plan for automation of its service to the blind and physically handicapped. Planning began in early 1972 with the emphasis on duplicating the manual procedures used in the service. After some rough beginnings with changing personnel and design modifications, Neoterics, Inc., a data processing and consulting firm, developed the REACH (Remote Access Circulation for the Handicapped) system. The REACH system is a minicomputer-based (Hewlett Packard) turnkey system operating in both online and batch modes. Even with the early planning efforts, the system was not operational until August 1977. The system has never included a fully automated book selection system.

In the 1977 annual report of the Braille and Talking Book Department, it is stated that the present system will reach its capacity by 1978. Options for remedying this problem are addressed in a report, March 28, 1978, by the Department Head. Three alternatives were suggested:

(1) Purchase more storage capacity, two additional terminals, and existing software
(2) Option 1 plus the ability to accomodate a larger reader request file, a direct circulation feature and an automatic selection/circulation feature
(3) Option 2 plus an automated shipping capability.

These options are based on the existing Neoterics system. While the regional library was considering a modification of their system, the Cleveland Public Library administration made a decision to purchase an automated system for the entire library. In October 1978, a contract was signed by Cleveland Public Library with DRA-Library Systems Inc. The system was scheduled for delivery in January 1979.

Evaluation

The Computer Decision

There are over 100 suppliers of minicomputer- and microcomputer-based small business systems. A list of major suppliers would include Data General, Hewlett-Packard, Texas Instruments, Microdata. Sperry Univac, Pertec/MITS, Lear Siegler, Datapoint, General Automation, Computer Automation, IMSAI, Polymorphic Systems, IBM, Honeywell, Nivdorf, Beehive, Digital Equipment Corp., and Xerox. In addition, remote computing firms or timesharing services offer other sources of computers. Firms offering this option include Itel, National CSS, Keydata, ADP and Tymshare. A library's search for the "right" computer to accomplish its objectives is a complicated task, since many machines could perform the

file maintenance, inventory control and report generation required by libraries. The decision of "how to computerize" then becomes less a function of choosing a particular machine and more a consideration of the total service available from the computer vendor. The following are some considerations to keep in mind.

Software

The key ingredient in system performance is software, or programs. There are two major categories of software: system software and application software. System software directs the computer in the use of its resources and processing. Librarians should not be too concerned with systems software, since ideally it should not be noticeable. Application software produces output or results; hence, it is the single most important ingredient in the successful operation of a system. Only recently, however, have truly library-specific programs been developed.

Growth

An effective small business computer system should be able to grow and expand with the user's needs. This means that a user can add to the system or easily move to another machine in the vendor's product line.

Vendor

Reputation and demonstrated performance are key factors in vendor selection. Other factors to consider include: How well does vendor equipment work where it

is presently installed? Does the vendor have his own maintenance facility? Can you expect good cooperation between your staff and the vendor's field service personnel? Are facilities available for training your staff in use of the equipment?

Price

The price range for small business systems varies widely from about $9,000 and $150,000, indicating the variety of capabilities available.

The Cincinnati Decision

The IBM System/3 Model 8 is a general purpose small business computer, which became available in June 1975. The Model 8 is a disc-based system oriented towards batch operations. The minimum system can be expanded to include more memory (up to 64K bytes) and more disc (to 19.6m bytes). Cincinnati's present system provides the full memory capability and half the full disc capacity. IBM offers a substantial library of applications programs for the Model 8 and a large amount of independent software. As mentioned earlier, this software is not strictly library oriented. The major competitors for the Model 8 are the Burroughs B730 Series, NCR Century 101, and Honeywell Series 60 Level 6 Models 40 and 60. The distinct advantages of the Model 8 are:

- hardware dependability
- IBM service
- the variety of adaptable application programs.

Like the other members of the System/3 family, the Model 8 performs best as a batch machine with subordinate interactive capabilities.

Cincinnati's decision to acquire a Model 8 for the service to the blind and physically handicapped was based on several factors:

1. The library had a successful experience with the IBM Model 10 in the main library.
2. The data processing staff was familiar with the System/3 operation.
3. The Model 8 could be leased for $3,900/month, thus avoiding outright purchase of a computer system during a largely experimental development phase.
4. An independent data processing consultant's analysis suggested the Model 8.
5. A two-year examination of the available computer systems revealed no better alternative.

The IBM System/3 Model 8 is capable of performing the functions associated with the service to the blind and physically handicapped, given the proper applications software. The only limitation is the physical capability of the system to deal with very large files. In Cincinnati's case the growth in readership placed demands on the system sooner than expected.

The New Cincinnati Decision

The Cincinnati library staff realized that eventual growth in the size of the files and the need for an online, transaction-based system would force the retirement of the Model 8 at some point.

The IBM System/34 was announced by IBM April 14, 1977, as its initial display-based small machine capable of running several programs simultaneously. The System/34 is available only in preconfigured models with specified amounts of storage. For System/34, disc storage may be added (up to 128.4m bytes) and the memory limit is 128K bytes. The System/34 is not directly compatible with any other product, but the applications software, which was written in RPG II (a programming language), is transferrable to the new machine with only minor changes. This means that from a functional point-of-view the System/34 will be able to pick up where the Model 8 left off with little problem.

The System/34 has many competitors. Since few companies can compete with IBM in service and support, the alternative is to compete in performance and price. System competitors include Burroughs B80 and B800, NCR 8230 and 8250, DEC's Datasystem 300 and 500 series, and Honeywell's Level 6. The strengths of the System/34 are the reliable and easy-to-use hardware and the availability of industry applications software. Capabilities of the System/34 include file management, data entry and inquiry, workstation functions, and sort functions. These capabilities can be used as the basis for the operation of a circulation system in a regional library for the blind and physically handicapped.

The decision to replace the Model 8 with the System/34 is a sound one. Although there is currently no logical upgrade path of the System/34, industry projections point to that possibility in the future. Despite this possibility, however, it is highly unlikely that the service to the blind and physically handicapped will require a more capable machine. The decision is also supported by falling computer prices. Compared to

the Model 8 which leased for $3,900/month, the System/34 will lease for approximately $2,500/month.* This will give a payout of about 26-27 months and suggests outright purchase if the machine life can be expected to be greater than two years. Presently an outside data processing consulting firm is conducting an evaluation of the data processing plans of the Public Library of Cincinnati and Hamilton County and will make a recommendation in this area.

The Cleveland Decision

The recent decision by Cleveland Public Library to replace the Hewlett-Packard-based Neoterics, Inc. system obviates the need for a close examination of this equipment. As described in the REACH manual, the system utilizes proven minicomputer equipment and software technology. All communication between the system and t'e user is via a keyboard display device. Reports are produced on a line printer.

Unlike the upgrade proposed for the Cincinnati Library, the new system development at Cleveland depends very little on the previous system configuration. In Cleveland's case it is more important to examine the previous system's development process which will influence the future more than the equipment.

Project Access was the first automation effort at the Braille and Talking Book Department of Cleveland Public Library. It began on June 15, 1974, and culminated in the computerization of the talking book and cassette service in August 1977. The formal project was preceded by planning efforts by Katherine Prescott and her staff dating from 1972. The decision to purchase an automated

*Costs for the System/34 and related equipment and training are the subject of a request for Title I Special Project Grant for $74,906.

circulation control system from Hewlett-Packard was made after a competitive bid process, and work on the program specificatons began immediately. The patron file was converted manually from existing library records; the inventory of books was copied and edited largely from the Texas Regional Library system with some additions.

Hewlett-Packard contracted with Neoterics, Inc. to furnish the software for the system. The initial system design was interrupted by personnel changes at Neoterics, and although a capable substitute was found, the net result of the fresh look at the system was a major redesign effort more than half-way through the project. This affected all aspects of the system, including the substitution of more powerful hardware in August 1976. Writing and testing of the basic operational programs, expected in November 1976, was not completed until June 1977. Although the programs were functioning at this time there existed an unexpected competition for terminal time among users of the system.

Modifications to the REACH User's Manual delayed its publication and created problems in training staff to use the system. Another personnel change at Neoterics meant much less support at this critical time.

Despite these problems the system was up and running in August 1977, and in September the Library formally accepted the system from Neoterics, Inc.

In the Close-Out Report for Project Access, September 1977, it is noted that the Neoterics system would approach its limits by the end of 1978. With this prospect, the Cleveland Public Library Administration began exploring an integrated automated system for the entire library, which would incorporate the needs of the Regional Library.

The New Cleveland Decision

The Cleveland Public Library's planning for an integrated library system has been underway for some time. The system selected is one developed by DRA Library Systems, Inc. and is essentially the system currently operating in St. Louis and Sacramento libraries and scheduled for New York City. Cleveland has used services of DRA Library Systems, Inc. since August 1977, when a microwave link was established for access to the St. Louis Library's newspaper index file.

DRA-LSI is a subsidiary of Data Research Associates, Inc. The firm specializes in the automation of library operations, including acquisitions, circulation, serials control, and accounting as well as Regional Library functions.

The DRA-LSI system is a complete turnkey (ready-to-use) package utilizing minicomputers, interactive terminals and OCR identification of materials and transactions. The system provides for online inquiry and update of the following files:

Patron file
Title file
Has-had list
Has-now list
Request list
Reserves list
Machine inventory file
Magazine publisher file
Magazine recipient file
Subject category lists

An overview published by DRA-LSI gives a brief statement of the systems capabilities.

"Multiple modes of material selection are available:

> Manual mode: The advisory can use the system to identify possible selections and then request that they be sent out to the reader or be placed on a request or reserve list.
>
> Cyclic selection: A particular patron is issued an exact number of selections every time his cycle is serviced. Such cycles may be weekly, monthly, every other week, etc. A patron limit is provided to prevent the issuance of excessive materials to a patron who has not returned previously-issued materials.
>
> Patron requests: A patron may enter multiple requests. Every time he returns material, additional material will be issued.
>
> Patron reserves: Reserves may be entered for the patron. These are serviced, in a FIFO (first in, first out) manner, before any other patron's request for that same material. The librarian also has the option to send reserved materials even though the items are in excess of the patron's maximum material limit.
>
> Profile selection: A cyclic- or return-basis patron may be coded for profile selection. Books are selected from returned materials using a patron profile.

The system provides for automated charging and discharging of materials. When the selection process is complete, three-by-five mailing cards are printed using an OCR font on a standard printing device. These cards are scanned before the material is sent out and when it is returned to charge and discharge it. The system will automatically issue newly returned materials before shelving in order to prevent needless reshelving of materials. Such automatic reissue has been shown to result in greater than eight-percent of returned materials being reissued immediately.

The patron file is accessed by a simple name-based alpha-numeric code. The system automatically displays the patron's name whenever this identification code is entered. Included in the patron file is information that is required to select and issue materials. Patron requests, reserves, has-now, and has-had information are kept in

separate files in order to minimize disk activity and prevent frequent file reorganizations.

There is provision for free-form patron notes which serve as a storage area for librarian notes on each patron. These notes are at the discretion of the librarian and could relate to the type of selections desired, special conditions that should be noted, or any other factors that might affect patron service. There are 486 characters per patron that are available in the file for this purpose.

The title master file, contains the title, author, subject, and constraint information in addition to the information required for weeding and reporting. This file can be accessed by both talking book number and title search key. The subject categories are similar to those used by the Cincinnati Regional Library.

Media-specific title information is kept in a separate file from general title information. This file provides the ability to issue a given title in another medium if the patron request cannot be fulfilled in the requested medium and the patron can use another medium.

Complete information regarding magazine distribution is also kept. Address changes can be automatically sent to those publishers who deliver directly to patrons.

The machine inventory file consists of the machine identification code, status, status date, issuing agency, and patron ID code. The file may be searched or printed either by machine ID or patron ID.

The system can be set up to automatically issue notices regarding overdue materials. Notices can also be issued if the patron is a request-only patron and has insufficient requests on file.

The package includes a special set of programs designed to facilitate rapid conversion to automated operation. These programs print book labels, keep inventory, 'force' book issues and record all charges and discharges. Through the use of these 'interim operation' programs, the library may begin automated charge/discharge as soon as title and patron information have been entered."*

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*Overview of the DRA Library Systems, Inc. system for the Regional Library for the Blind and Physically Handicapped, October 20, 1978, supplied by DRA Library Systems, Inc.

DRA-LSI system will use a Digital Equipment Corporation midicomputer, the PDP 11/70. The PDP 11/70 is DEC's (Digital Equipment Corp.) top-of-the-line in the PDP 11 series. The computer is termed "midi" because it falls in the range between the general purpose minis and comes near to matching the performance of a medium or large mainframe system. It supports standard peripheral equipment and has the capacity to handle up to 64 terminals.

Cleveland's DRA system will initially be configured with 256K bytes of memory (expandable to 2M bytes) and two 176 MB discs. Six VT100 terminals will provide the display stations. The first major application for the system will be the circulation system for the Braille and Talking Book Department. Planned expansion to online cataloging and full library circulation will most likely require a dual 11/70 or a front end processor of some sort.

The exact cost is not available at this time, but the system is expected to cost approximately $200,000. This is similar to the costs of the St. Louis and Sacramento systems. The $78,000 granted to Cleveland Public Library in January 1978 may be applied to the purchase of the system. The Cleveland Public Library administration expects that the system will be supported with local funds with this exception.

COSTS

Costs were sought from both Regional Libraries with respect to their total operations. The following pages summarize these figures.

Tables 15 and 20, Library for the Blind Expenditures, are summaries of all money spent in various categories by the Regional Libraries.

Tables 16 and 21, Total Project Expenditures, are summaries of all federal and general fund expenditures for the ABCD and ACCESS Projects.

The graphs, designated as Tables 19 and 24, indicate the fluctuations in the number of FTE positions over the reporting period.

Tables 17 and 22, Total Grant Awards, show the LSCA funds expended for the projects in the various project periods.

Tables 18 and 23, Cost Summaries, indicate the expenditures against sources of revenue.

Cincinnati

Funding for the ABCD computerization project began in 1975. During the period 1975-1977, the following expenditures were made:

TOTAL EXPENDITURES	$217,404.89
GRANT AWARDS EXPENDED	- 148,650.10
Cincinnati's contribution to ABCD expenditure	$ 68,754.79

During this same period, the State Library reimbursed Cincinnati a total of $274,577 based on the formula. The total State Library contribution to the Cincinnati Regional Library for 1975-1977 was $423,227.10.

Cleveland

Funding for the ACCESS computerization project began in 1975. During the period 1975-1977, the following expenditures were made:

TOTAL EXPENDITURES	$130,100.00
GRANT AWARDS EXPENDED	- 57,000.00
Cleveland's contribution to ACCESS Expenditure	$ 73,100.00

During this same period, the State Library reimbursed Cleveland a total of $614,350 based on the formula. The total State Library contribution to the Cleveland Regional Library for 1975 through January 31, 1978 was $727,219.

TABLE 15. PUBLIC LIBRARY OF CINCINNATI AND HAMILTON COUNTY

LIBRARY FOR THE BLIND EXPENDITURES

	1972	1973	1974	1975	1976	1977	1978	Total
Salaries & Benefits								
General Fund*	$ 47,412.00	$ 54,972.00	$ 68,424.00	$ 98,282.40	$ 91,393.45	$ 74,471.98	$ 77,845.17	$512,801.00
ABCD	0	0	0	5,638.62	20,886.27	18,245.18	19,794.47	64,564.54
WATS	0	0	0	0	0	0	6,404.12	6,404.12
Total	$ 47,421.00	$ 54,972.00	$ 68,424.00	$103,921.02	$112,279.72	$ 92,717.16	$104,043.76	$583,769.66
Administrative Costs								
General Fund	$ 0	$ 0	$ 0	$ 16,955.29	$ 19,695.84	$ 16,189.43	$ 17,450.67	$ 70,291.23
ABCD	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 16,955.29	$ 19,695.84	$ 16,189.43	$ 17,450.67	$ 70,291.23
Supplies								
General Fund	$ 1,760.00	$ 1,760.00	$ 604.00	$ 1,462.84	$ 3,641.79	$ 557.94	$ 1,168.54	$ 10,955.11
ABCD	0	0	0	0	1,407.82	919.38	9,078.02	11,405.22
WATS	0	0	0	0	0	0	0	0
Total	$ 1,760.00	$ 1,760.00	$ 604.00	$ 1,462.84	$ 5,049.61	$ 1,477.32	$ 10,246.56	$ 22,360.33
Electrical Upgrading (Wiring System III)								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 790.34	$ 0	$ 0	$ 790.34
ABCD	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 790.34	$ 0	$ 0	$ 790.34
Travel Expense								
General Fund	$ 131.00	$ 52.00	$ 0	$ 214.20	$ 312.91	$ 31.97	$ 792.22	$ 1,534.30
ABCD	0	0	0	0	647.40	44	0	647.84
WATS	0	0	0	0	0	0	0	0
Total	$ 131.00	$ 52.00	$ 0	$ 214.20	960.31	$ 32.41	$ 792.22	$ 2,182.14
Utilities								
General Fund	$ 1,186.00	$ 1,423.00	$ 1,348.00	$ 1,719.78	$ 2,167.22	$ 2,479.57	$ 3,202.39	$ 13,525.96
ABCD	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	13,567.00	13,567.00
Total	$ 1,186.00	$ 1,423.00	$ 1,348.00	$ 1,719.78	$ 2,167.22	$ 2,479.57	$ 16,769.39	$ 27,092.96

LIBRARY FOR THE BLIND EXPENDITURES (CONTINUED)

	1972	1973	1974	1975	1976	1977	1978	Total
Printing & Publicity								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
ABCD	0	0	0	0	0	0	590.02	590.02
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 590.02	$ 590.02
Special Services (Programming)								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
ABCD	0	0	0	0	6,637.00[1]	0	0	6,637.00
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 6,637.00	$ 0	$ 0	$ 6,637.00
Rental of Equipment								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
ABCD	0	0	0	0	34,440.86	46,055.00	46,090.10	126,585.96
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 34.440.86	$ 46,066.00	$ 46,090.10	$126,585.96
Security								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 1,682.40	$ 723.75	$ 839.40	$ 3,245.55
ABCD	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 1,682.40	$ 723.75	$ 839.40	$ 3,245.55
Rental of Space								
General Fund	$ 6,400.00	$ 6,400.00	$ 6,400.00	$ 6,400.00	$ 6,400.00	$ 7,368.51	$ 10,112,40	$ 49,480.91
ABCD	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 6,400.00	$ 6,400.00	$ 6,400.00	$ 6,400.00	$ 6,400.00	$ 7,368.51	$ 10,112,40	49,480.91
Library Serv. Material								
General Fund	$ 2,400.00	$ 0	$ 0	$ 279.60	$ 725.50	$ 861.33	$ 803.00	$ 5,069.43
ABCD	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 2,400.00	$ 0	$ 0	$ 279.60	$ 725.50	$ 861.33	$ 803.00	$ 5,069.43

LIBRARY FOR THE BLIND EXPENDITURES (CONTINUED)

	1972	1973	1974	1975	1976	1977	1978	Total
Equipment & Furnishings								
General Fund	$ 0	$ 0	$ 0	$ 697.10	$ 0	$ 0	$ 0	$ 697.10
ABCD	0	0	0	0	5,267.99[2]	8,504.14[3]	0	13,772.13
WATS	0	0	0	0	0	0	1,650.00	1,650.00
Total	$ 0	$ 0	$ 0	$ 697.10	$ 5,267.99	$ 8,504.14	$ 1,650.00	$ 16,119.23
Total General Fund Expenditures	$ 59,289.00	$ 64,607.00	$ 76,776.00	$126,011.21	$126,809.45	$102,684.48	$112,213.79	$668,390.93
Total ABCD Expenditures	0	0	0	5,638.62	69,287.34	73,724.14	75,552.61	224,202.71[4]
Total WATS Expenditures	0	0	0	0	0	0	21,621.12	21,621.12
GRAND TOTAL	$ 59,289.00	$ 64.607.00	$ 76,776.00	$131,649.8[illegible]	$196,096.79	$176,408.62	$209,387.52	$914,214.76

[1] IBM System Work

[2] Conveyor

[3] Cassette duplicator

[4] This figure differs from the total ABCD awards by $21,182.29 which will be encumbered in early 1979.

* General Fund includes money from the reimbursement formula and in-kind contributions by the library.

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TABLE 16. PUBLIC LIBRARY OF CINCINNATI AND HAMILTON COUNTY

TOTAL FEDERAL AND GENERAL FUND EXPENDITURES
FOR THE ABCD PROJECT FOR THE PERIOD 1975 - 1978

	1975	1976	1977	1978	Total
Salaries and Benefits	$14,559.56	$ 43,380.61	$ 40,637.35	$ 41,360.03	$139,937.55
Administrative Costs	728.28	4,149.12	3,227.82	3,298.02	11,403.24
Supplied	0	4,614.01	1,358.82	10,020.93	15,993.76
Electrical Upgrading	0	790.34	0	0	790.34
Travel Expense	0	647.40	.44	0	647.84
Utilities	0	0	0	0	0
Printing and Publicity	0	0	0	590.02	590.02
Special Services (Programming)	0	6,637.00	0	0	6,637.00
Rental or Equipment	0	34,440.86	46,055.00	46,090.10	126,585.96
Security	0	1,682.40	723.75	839.40	3,245.55
Rental of Space	0	0	0	0	0
Library Service Material	0	0	0	0	0
Equipment and Furnishings	0	5,267.99	8,504.14	0	13,772.13
GRAND TOTAL	$15,287.84	$101,609.73	$100,507.32	$102,198.50	$319,603.39

TABLE 17. PUBLIC LIBRARY OF CINCINNATI AND HAMILTON COUNTY

TOTAL GRANT AWARDS

Project Name	Project Period From	To	Amount
ABCD I	7/1/75	6/30/77 (1)	$151,307.00
ABCD II	1/1/78	3/31/78	23,519.00
ABCD II A	4/1/78	12/31/78 (2)	70,559.00
TOTAL			$245,385.00

(1) Extended to 12/31/77.

(2) Requested extension to 2/28/79.

TABLE 18. PUBLIC LIBRARY OF CINCINNATI AND HAMILTON COUNTY COST SUMMARY 1972-1977

Total Library Expenditures		$704,827.24
State Library Reimbursement	$446,829.00	
Special Grants	$151,307.00	
Total State Library Contribution	$598,136.00	
Total Cincinnati Contribution	$106,691.24	
Percent of Total - State Library	85%	
Percent of Total - Cincinnati	15%	

PUBLIC LIBRARY OF CINCINNATI AND HAMILTON COUNTY

TABLE 19. PERSONNEL

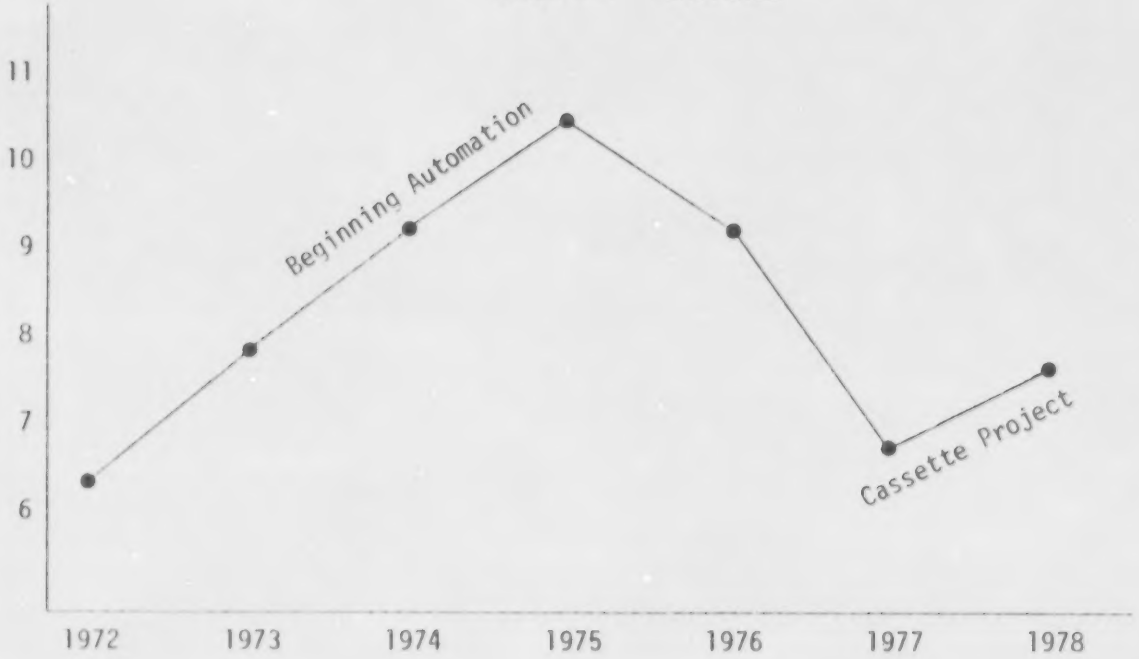


TABLE 20. CLEVELAND PUBLIC LIBRARY

LIBRARY FOR THE BLIND EXPENDITURES

	1972	1973	1974	1975	1976	1977	1978	Total
Salaries & Benefits								
General Fund*	$120,772.00	$156,785.00	$178,177.00	$206,890.00	$262,284.00	$244,046.00	$281,199.00	$1,450,155.00
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	3,086.00	8,216.00	8,097.00	0	19,399.00
Total	$120,772.00	$156,785.00	$178,177.00	$209,976.00	$270,500.00	$252,145.00	$281,199.00	$1,469,554.00
Administrative Costs								
General Fund	$ 13,846.00	$ 14,179.00	$ 13,337.00	$ 17,025.00	$ 20,233.00	$ 38,428.00	$ 42,139.00	$ 159,187.00
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 13,846.00	$ 14,179.00	$ 13,337.00	$ 17,025.00	$ 20,233.00	$ 38,428.00	$ 42,139.00	$ 159,187.00
Supplies								
General Fund	$ 2,972.00	$ 4,906.00	$ 5,608.00	$ 5,155.00	$ 2,555.00	$ 5,097.00	$ 2,360.00	$ 28,653.00
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	1,718.00	0	0	0	1,718.00
Total	$ 2,972.00	$ 4,906.00	$ 5,608.00	$ 6,873.00	$ 2,555.00	$ 5,097.00	$ 2,360.00	$ 30,371.00
Electrical Upgrading (Wiring System III)								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Travel Expense								
General Fund	$ 358.00	$ 296.00	$ 600.00	$ 1,401.00	$ 552.00	$ 289.00	$ 1,144.00	$ 4,640.00
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 358.00	$ 296.00	$ 600.00	$ 1,401.00	$ 552.00	$ 289.00	$ 1,144.00	$ 4,640.00
Utilities								
General Fund	$ 1,867.00	$ 2,901.00	$ 3,845.00	$ 5,387.00	$ 3,368.00	$ 4,522.00	$ 6,109.00	$ 27,999.00
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	3,723.00	14,125.00	14,986.00	11,960.00	44,794.00
Total	$ 1,867.00	$ 2,901.00	$ 3,845.00	$ 9,110.00	$ 17,493.00	$ 19,508.00	$ 18,069.00	$ 72,793.00

LIBRARY FOR THE BLIND EXPENDITURES (CONTINUED)

	1972	1973	1974	1975	1976	1977	1978	Total
Printing and Publicity								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Special Services (Programming)								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Rental of Equipment								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Security								
General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Rental of Space								
General Fund	$ 352.00	$ 352.00	$ 352.00	$ 448.00	$ 448.00	$ 448.00	$ 448.00	$ 2,848.00
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 352.00	$ 352.00	$ 352.00	$ 448.00	$ 448.00	$ 448.00	$ 448.00	$ 2,848.00
Library Serv. Material								
General Fund	$ 400.00	$ 1,647.00	$ 5,463.00	$ 7,732.00	$ 4,762.00	$ 4,900.00	$ 0	$ 24,904.00
ACCESS	0	0	0	0	0	0	0	0
WATS	0	0	0	0	0	0	0	0
Total	$ 400.00	$ 1,647.00	$ 5,463.00	$ 7,732.00	$ 4,762.00	$ 4,900.00	$ 0	$ 24,904.00

LIBRARY FOR THE BLIND EXPENDITURES
(Continued)

	1972	1973	1974	1975	1976	1977	1978	Total
Equipment & Furnishings								
General Fund	$ 6,318.00	$ 118.00	$ 2,746.00	$ 2,604.00	$ 4,450.00	$ 6,640.00	$ 710.00	$ 23,586.00
	0	0	0	57,000.00	0	0	0	57,000.00
WATS	0	0	0	1,995.00	0	0	0	1,995.00
Total	$ 6,318.00	$ 118.00	$ 2,746.00	$ 61,599.00	$ 4,450.00	$ 6,640.00	$ 710.00	$ 82,581.00
Total General Fund Expenditures	$146,885.00	$181,184.00	$210.128.00	$246,642.00	$298,652.00	$304,372.00	$334,109.00	$1,721,972.00
Total ACCESS Expenditures	0	0	0	57,000.00	0	0	0	57,000.00
Total WATS Expenditures	0	0	0	10,522.00	22,341.00	23,083.00	11,960.00	67,906.00
GRANT TOTAL	$146,885.00	$181,184.00	$210,128.00	$314,164.00	$320,993.00	$327,455.00	$346,069.00	$1,846,878.00

TABLE 21. CLEVELAND PUBLIC LIBRARY

TOTAL FEDERAL AND GENERAL FUND EXPENDITURES
FOR PROJECT ACCESS FOR THE PERIOD 1975 - 1978

	1975	1976	1977	1978	Total
Salaries and Benefits	$ 6,774.41	$ 0	$ 0	$ 0	$ 6,774.41
Administrative Costs	$ 3,421.17	$ 1,705.30	$ 0	$ 0	$ 5,126.47
Supplies	$	$	$	$	$
Electrical Upgrading	$	$	$	$	$
Travel Expense	$	$	$	$	$
Utilities	$	$	$	$	$
Printing and Publicity	$	$	$	$	$
Special Services (Programming)	$	$	$	$	$
Rental of Equipment	$ 26,900.01	$ 0	$ 0	$ 0	$ 26,900.01
Security	$	$	$	$	$
Rental of Space	$	$	$	$	$
Library Service Material	$	$	$	$	$
Equipment and Furnishings	$ 82,755.58	$ 0	$ 0	$ 0	$ 82,755.58
GRANT TOTAL	$123,013.09	$ 4,057.26	$ 3,029.65	$ 0	$130,100.00

TABLE 22. CLEVELAND PUBLIC LIBRARY

TOTAL GRANT AWARDS

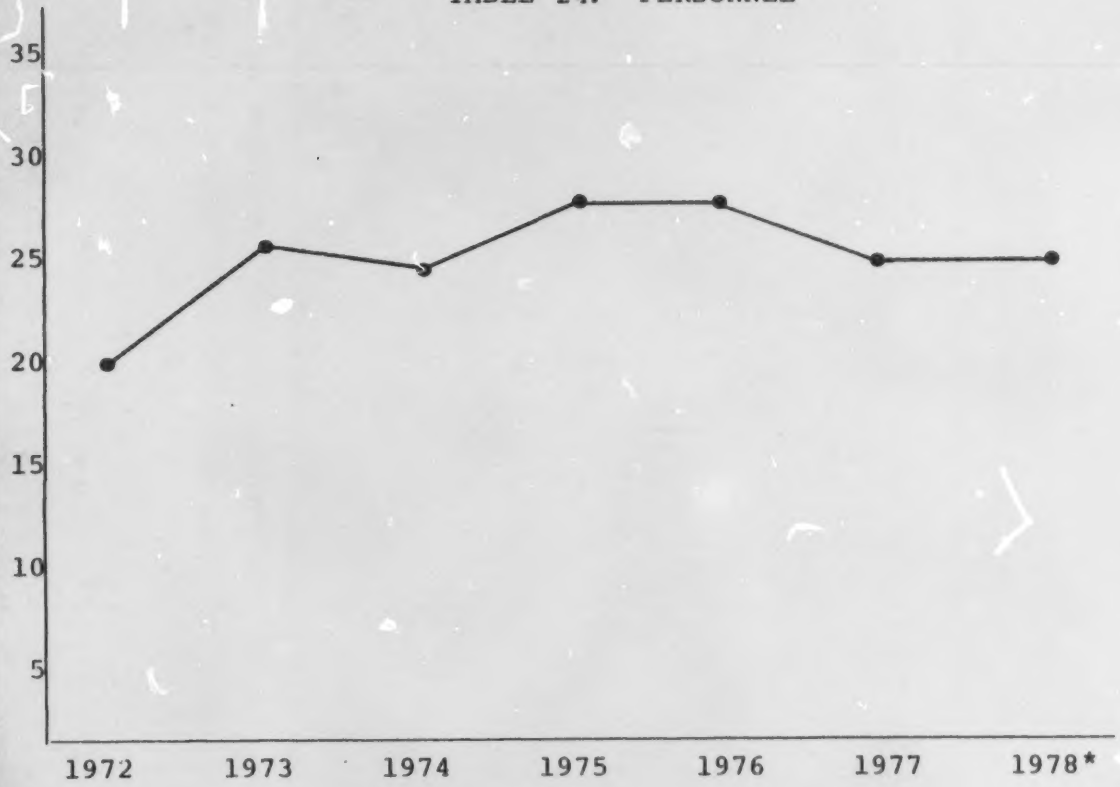
Project Name	Project Period From	To	Amount
Project Access	5/15/74	12/31/75	$ 57,000.00
Project Communication	6/01/75	1/31/78	$ 55,869.00
Project Communication	2/01/78	2/19/78	$ 1,962.00
Project Communication	2/20/78	2/19/79	$ 20,352.00
TOTAL			#135,183

TABLE 23. CLEVELAND PUBLIC LIBRARY
COST SUMMARY 1972 - 1977

Total Library Expenditures		$1,500,809
State Library Reimbursement	$1,083,889	
Special Grants	$ 112,946	
Total State Library Contribution	$1,196,834	
Total Cleveland Contribution	$ 303,975	
Percent of Total - State Library	80%	
Percent of Total - Cleveland	20%	

CLEVELAND PUBLIC LIBRARY

TABLE 24. PERSONNEL



*Work week shortened from 40 hours to 37-1/2 hours.

Conclusions and Recommendations

Strengths and Shortcomings

Any evaluation of the computer systems in the Regional Libraries suggests a comparsion of the systems, weighing features and capabilities of one against the other. This is not the case in this study for two reasons. First, in applying computer technology to information processing there is more than one way to "skin a cat". Despite a vendor's insistence that a single system works best, in fact, very similar tasks can be performed equally successfully using different equipment.

Second, the situations in Cincinnati and Cleveland are very different. Although automation supports a similar service in both libraries, the philosophies and approaches of the decision-makers may be quite different. Cincinnati developed an initial satisfactory arrangement with IBM. Their automation effort was oriented around experimental evolutionary design and was configured around IBM's existing programs. A special effort was made for part of the staff to participate in the actual system programming. Cleveland, on the other hand, was not computer manufacturer-oriented, but guided by a third party software consultant. Both approaches are reasonable; both machines are capable and reliable; however, very different systems were produced.

Another factor which shaped the development of both systems was the lack of a precedent in this area. Both Cincinnati and Cleveland libraries are pioneers. With no satisfactory examples, it is quite reasonable that two very different approaches might be taken.

Although quite different automation experiences are on-going at the two Regional Libraries, there are some common strengths and weaknesses in the systems development process which should be noted.

Both systems development efforts are ground breaking endeavors. They have both suffered the pangs of changing key personnel, unanticipated demands on the system, slipped schedules and the problems of learning about new technology. The lessons learned can prove very valuable as new systems are developed.

Both systems are planned to be dedicated to the unique needs of the Regional Library, yet to be a part of the total library automation system. Cincinnati's Regional Library system is obviously a distinctly different system from the planned main library system. However, the systems will have the capability to communicate with each other. Cleveland's system will actually be a subsystem of the main library's system; however, the PDP 11/70 is fully capable of handling the Regional Library's circulation functions as a separate system without serious competition for resources.

The functions performed by the systems of the two Regional Libraries are quite similar. Table 20 lists the functions performed by the Regional Library systems, as indicated by an "x". (See page 73). It is recommended that the systems developed by both libraries perform these essential functions.

Most of the mistakes in systems development efforts were caused by oversight during the design stages. Because it was the first automation effort for both Regional Libraries, the level of detailed planning required to bring up a system was seen only by hindsight. Most of these mistakes are documented in project reports and other documents to the State Library. None of these mistakes during earlier development should affect the effective operation of the new systems for Cleveland or Cincinnati.

The major weakness in both automation programs is the lack of attention to evaluation. Procedures for evaluating the performance of the systems should be developed. This not only gives a mechanism for justifying the money spent on automating, but gives ground for further development.

Another weakness found in both efforts is the lack of meaningful training in systems operation. This is critical in Cincinnati where the Department Head is also the only accomplished programmer dealing with an essentially in-house system. It is also true in Cleveland where there is no one in the Regional Library with experience in the operation of new systems.

Related to evaluation is the need in both libraries for a formal automation plan. This may be practical only for the short (2-4 years) term given the changing technology. However, a formal plan outlining expansion of facilities against anticipated service patterns, projected costs and methods of funding, etc. which could be semi-annually reassessed would provide a helpful framework for both automation efforts. A data processing consultant's study such as the one being done for Cincinnati could furnish much of the material for a formal automation plan.

An automation plan would also provide a mechanism for reporting developments and activities to the State Library. Automation efforts which are increasingly candidates for state and LSCA money should be coordinated insofar as is necessary with statewide library planning. The lack of communication about developments in the area of automation in both Regional Libraries has been a source of confusion and misunderstanding between the libraries and the State Library.

TABLE 25. RECOMMENDED SYSTEM FUNCTIONS

	Cleveland	Cincinnati
1. Add personal requests to patron file	X	X
2. Add advisor or automatic selections to patron file	X	X
3. Select books from stacks or returned mail; generate mailing labels; charge out another book to patron or book to other patron	X	X
4. Overdue notices	no	no
5. Discharge returned books; check requests list; select and charge out another book to patron or book to other patron	X	X
6. Reserve title for patron	X	X
7. Perform manual charge-out (override system)	X	X
8. Handle special book returns (damaged books)	X	X
9. Generate various mailing labels	X	X
10. Enter or change materials data	X	X
11. Enter or change patron data	X	X
12. Maintain magazines subscriptions	X	no
13. Circulate magazines	X	no
14. Provide for "delayed" and "restart" service to patron	X	X
15. Account for machines	no	no
16. Issue statistics	X	X
17. Create bibliographies	no	no

Conclusions and Recommendations

1. The circumstances surrounding the development of the computerized circulation systems in both Regional Libraries are vastly different. The automation efforts were begun at different times, under different assumptions and constraints, and with different motivations. Consequently, the amounts of money taken to develop and operate both systems is quite different. The difficult question for the State Library with regard to allocating money is how can both libraries be treated fairly, with equal consideration, based on their unequal demands for resources?

   The answer to this question will not come from any analysis of data or research method. It is the opinion of this study that in the absence of any LSCA Title II appropriation, the cost of computers will be a growing target of LSCA Title I money for many libraries. Although we believe this is a good application of LSCA money, the means of evaluating project proposals and project performance in this area is sorely lacking. Special attention should be paid by the State Library to the development of specific formats to be followed and criteria to be used in preparing proposals and reports in this area.

2. The automated circulation systems being developed by both Regional Libraries are substantially different in appearance but each will perform the appropriate functions for the Talking Book Program in a reasonable and cost-responsible way. Although no comparative cost data were available, it is reasonable to assume that procedures will be more expensive for some time when carried out by computer rather than by hand.

This may be reversed in the near future with the rising cost of personnel and the drop in the price of computers. However, especially in large file handling and inventory situations found in libraries, many of the operations being performed by computers would be impossible to perform by hand. Consequently, there is little to be gained from a strict "cost-effectiveness" evaluation which would compare manual and automated costs. Automation of library procedures is here to stay, and virtually no one would advocate a return to manual methods.

In this respect, Cincinnati and Cleveland's commitment to library automation is long standing and substantial. The State Library will realistically have very little affect on the development plans or the decisions made in this area. However, since statewide library development depends to some extent on the activites of the libraries, it is very important that the communication lines be kept open between these parties. One worthwhile way to support these endeavors would be to hire a library data processing consultant at the State Library level who could assist these libraries in these areas and provide the communication link.

3. The National Library Service for the Blind and Physically Handicapped has no plans which restrict in any way the independent development of automated circulation systems at the regional level.

4. This investigation can determine no reasons for any sort of compatible system development. There is no substantial information sharing between the systems which cannot be handled quite simply by conventional means.

5. Both libraries should develop formal plans for educating the staff in system operation and maintenance. Cleveland should involve especially the Director of the Regional Library. Since the DRA equipment is Digital, this can be accomplished quite easily. Digital Equipment Corporation has an excellent program of user education. Cincinnati has already undertaken an education program. Although this program has substantially involved the Director of the Regional Library, it has not planned adequately for back-up in this area. The education plans in both libraries should treat system maintenance and the "hows and why's" of the system as well as merely operating (using) the system.

PART III. ALTERNATIVES FOR SERVICE

Part of Battelle's charge in this study was to "make recommendations for changes in patterns of service and funding". Battelle proposed to derive alternatives for library service to the blind and physically handicapped and assess these alternatives in the light of service objectives and real-world constraints. This section discusses individually the alternatives for service structure and funding.

Alternatives for Service Structure

The National Library Service for the Blind and Physically Handicapped is based on a network of regional and subregional libraries. Each service area, with the concurrence of the Library of Congress, can determine the number and location of its regional libraries and whether it will have subregional libraries. We have identified three options for Ohio: two regional libraries only (that is, the present service structure), a single regional library at the State Library, and regional libraries plus a system of subregional libraries.

Alternative 1: Two Regional Libraries Only

Regional libraries already exist in Cleveland and Cincinnati. This has been the pattern of service in Ohio since 1931. During this time, readers have come to rely on the libraries that serve them. To meet the needs of these readers, the Regional Libraries have developed many strengths:

- Large, comprehensive collections of materials,
- Working relationships with agencies serving the blind and physically handicapped, with the State Library, and with each other,
- Well-trained experienced staffs who understand the needs of the readers,
- WATS lines providing users with toll-free direct access to regional library staff,
- Automated circulation systems to facilitate selection and return of materials,
- Ties with local libraries for extending the service.

A possible change in the present structure is to transfer several counties served by Cleveland Regional Libraries to the Cincinnati Regional Library. However, this study shows that the service patterns as established are very satisfactory to the users. Although Cleveland serves a larger number of readers than does Cincinnati (13,999 to 6,252), the present set-up does not affect reader service unfavorably. Both regional libraries have the staff and automated support systems necessary to serve their readership. The disparity between the costs of per reader service between the regional libraries occurs because of the difference in number of readers served. Large-scale expenditures such as purchase of computer equipment will have a greater affect on the Cincinnati Regional Library because it serves a smaller population.

Funding

Funding for two regional libraries should be based on considerations discussed in "Alternatives for Service Funding" later in this report.

Strengths of Alternative 1

1. The basic strength is that of an in-place, on-going system with established routines, procedures, and lines of contact. The two regional libraries have 47 years of experience in providing services to their areas.
2. WATS line service in both regional libraries provides to users toll-free direct access to regional library staff.
3. Record-keeping and administrative accountability are centralized.
4. The experience of establishing computerized circulation systems in both regional libraries is a valuable asset.
5. The relationships between the State Library, the Regional Libraries, and the administering libraries is well established and operating smoothly.
6. In a mail-order operation, the fewer points of dispatch that you have, the more efficient the service.

Drawbacks to Alternative 1

1. This structure does not provide for subregional libraries as encouraged by the Library of Congress.

Alternative 2: A Single Regional Library at the State Library

The second option is to replace the two regional libraries with a single regional library at the State Library to serve all 20,251 readers in Ohio.

Ohio

A single regional library at the State Library would have several of the strengths that were identified for the present structure:

- A single mail-order operation with a large comprehensive collection,
- Placement in the State Library could take advantage of the central administrative staff and services, e.g., accounting and reporting,
- Location of service within the agency which is responsible for it and provides funds for it,
- The State Library has well established rapport with public libraries in Ohio through its library development and interlibrary loan activities,
- Most agencies serving the blind and physically handicapped are headquartered or have offices in Columbus. Locating the regional library in Columbus would facilitate communication with these agencies.

While these advantages would appear to encourage establishment of a single regional library in Columbus, the data of this study indicate that the disadvantages would offset the benefits of such a move.

- Disruption of service to all users for an indefinite amount of time while relocation takes place,
- Investment of time and money in a major automation effort by the State Library,
- Duplication of computer facilities,

- Lack of space at the State Library to house the collection,
- Loss of experienced staff and the difficulty in acquiring additional staff positions at the State Library,
- Local costs presently borne by the regional libraries would fall upon the State Library,
- Speed of delivery would be slowed for users served by Cincinnati,
- Full centralization does not guarantee better service to users, particularly in view of the close communication and cooperation presently in place between the regional libraries and the State Library.

Alternative 3: Regional Libraries Plus a System of Subregional Libraries

The Regional Library Manual of NLS defines a subregional library as "a public library . . . serving a minimum of 200 readers in cooperation with its regional library for the blind and physically handicapped".

A subregional library system has several strengths and responsibilities:

- Registers readers
- Circulates books
- Maintains contact with readers
- Obtains materials from Regional Libraries for readers
- Works with local agencies which serve the blind and physically handicapped
- Conducts local publicity campaign to encourage readership
- Handles reader complaints.

These strengths might indicate advantages that are not provided from a regional library such as the increased local contact with the readers. The data of this study do not support the disadvantages or costs associated with the establishment and maintenance of subregional libraries. Users of the present service are very satisfied with the regional library service, contact with the regional library by telephone and mail, and the supporting services of the local public libraries where it is available.

Regional and subregional librarians in other states have indicated that increased readership is a result of subregional libraries. The "Comparison of Readers Served to Eligible Readers in States with Subregional Libraries and States with No Subregional Libraries"* shows that the growth in percentage of readers served is more rapid in states with subregionals than in those without. This is based on the Library of Congress early estimate that 3.7 percent of the population is eligible. An alternative explanation is that the establishment of subregional libraries is usually accompanied by increased publicity which could increase readership.

The Library of Congress chart also indicates that there is no difference in the percentage of eligible readers served in states with subregional libraries and states without them. This remains at 8.6 percent.

Increased accessibility is an objective of subregional libraries. However, experience in other states indicates that walk-in facilities are not used by a great number of blind and physically handicapped readers even where it is available. In Ohio, the

*Library of Congress, May 1977.

Cincinnati Regional Library averages 3-4 walk-in patrons a week, about 150-200 patrons a year. This is less than 10 percent of the population served in Hamilton County. Cleveland shows about 25 patrons per week or 1300 a year.* There are a variety of reasons for this:

- Mobility is more difficult for blind and physically handicapped persons,
- Talking book containers are bulky,
- Talking book collections, and talking books, are not set up for browsing,
- Location of regional or subregional libraries may discourage walk-in patrons.

The size of the collections maintained at subregional libraries is another disadvantage. A minimum collection of one copy per 300 readers of each of the current and past year's production of recorded books is maintained. Braille and magazines are not circulated from the subregional libraries.

If subregional service were to be established in Ohio there are two options for its structures: 1) subregional libraries with wide area service responsibilities similar to the multi-county cooperative library service areas and 2) single county subregional libraries in metropolitan areas.

1) Multi-county subregionals: Subregional libraries would serve large areas structured to conform as closely as possible to existing multi-county cooperative library service areas. The subregional libraries could be located in the major city within each area, except in southeastern Ohio

*Statistics from State Librarian's Memorandum to the State Library Board, June 7, 1977.

where it could be in the Regional Library Service Center in Caldwell. These cities are represented by a dot on Map 5. The Regional Libraries would perform coordinating and back-up functions.

2) Single county subregional libraries: There are at least five metropolitan libraries which could be subregional libraries serving the city and county in which they are located. These five cities are the same ones indicated on Map 5 (except Caldwell). The Regional Libraries in Cleveland and Cincinnati would serve Cuyahoga and Hamilton Counties, the remaining readers in the state, and as a back-up to the subregional libraries.

Funding

Subregional libraries are funded by a combination of local, state, and federal funds. Ohio reimburses Regional Libraries by a formula designed to encourage local funding of locally operated services. In keeping with this philosophy, the State Library could expect subregional service to be funded at the local level. Start-up grants could be made from state or federal funds until a local commitment is developed. Whenever a new service is developed, it will affect the funding of current services. The Regional Libraries will continue to provide a back-up and supportive role and will expect continued funding from the State Library. This option is more fully discussed under "Alternatives for Service Funding" elsewhere in this report.

PLAN FOR MULTI-COUNTY SUBREGIONAL LIBRARY SERVICE

MAP 5

Projected Readership:				
Youngstown:	1835	Columbus:	2512
Cleveland:	3610	Caldwell:	1611
Akron:	3018	Dayton:	1643
Toledo:	2670	Cincinnati:	3134

Costs

It is very difficult to estimate the costs involved in subregional service. Regional librarians in other states could not provide actual cost data for their subregional library service, but they did provide insights into what might happen to costs for the service:

- Start-up grants went to established public library systems from state or federal money,
- The Regional Library for the Blind and Physically Handicapped experienced a modest decrease in budget,
- Subsidies continued to the subregional libraries and the budget of the regional library returned to its original level.

The development of subregional libraries should not be expected to decrease costs for the service to the blind and physically handicapped. The institution of more service points with more staff, more in-service training, and the creation of a new level of administration will increase costs.

Strengths of Alternative 3

1. A national trend in library service is toward sub-state public library systems offering a variety of library services. If Ohio library development continues in this direction, the talking book service could be one of numerous programs offered at the multi-county level and would thus fulfill an objective for subregional libraries to make service to the blind and physically handicapped a part of regular library service.

2. Other states report that readership and circulation increase with the establishment of subregional library service.
3. Local libraries make a commitment to fund service to the blind and physically handicapped.
4. Readers will receive more local library service.

Drawbacks to Alternative 3

1. Disruption of service to the readers while subregional service is being implemented.
2. Automated cirulation and record-keeping systems in the two regional libraries would require expansion to include terminals at each subregional library or subregionals will need to integrate with the local library's automated system. Decentralization will result in increased costs.
3. Ohio readers do not indicate a desire to visit the library offering the service. Their needs are satisfied by telephone contact and mail service, both available through present Regional Libraries.
4. The U.S. Postal Service reports that most bulk mail will pass through a bulk mail center and return for actual delivery even within the originating city. Therefore, delivery in most cases will not be improved by subregionalization.
5. Subregional service will increase the costs of providing service and create another level of administration.

Recommendations for Structure

Alternative 1: Two regional libraries

RECOMMENDATION: The State Library Board should adopt Alternative 1 as the structure of service, retaining the two Regional Libraries serving counties as established.

This recommendation is supported by the following data from this study:

- Users' overwhelming satisfaction with the service as presently offered including contacts with the Regional Libraries and speed of delivery of materials,
- The satisfactory working relationships established with other agencies serving the blind and physically handicapped, e.g., the Rehabilitation Services Commission and the sublending agencies,
- This alternative is the most cost-effective for providing statewide services at their present level,
- The major advocate organizations for the blind support Regional Libraries because they have large, comprehensive collections,
- The service is now functioning smoothly and improving services.

Alternative 2: Single Regional at the State Library

This alternative is not recommended because:

1) It would result in great disruption of existing services and automated support,
2) This alternative will not provide better services to the reader than the present structure,
3) Costs to the state will increase.

It is recommended that the State Library Board discard this alternative from consideration.

Alternative 3: Subregional Library Service

This alternative is not recommended, because the data of this study do not substantiate the position that subregionals are needed in this state at this time.

- Most claims for the improvement of services by subregionalization are unsubstantiated by hard data.
- Limited resources are provided by subregional libraries. For example, only current books (less than a year old) are available at subregional libraries; readers wanting older material must still receive it from the regional library.
- The thinning and scattering of materials is not necessary in a mail-order service to provide what readers need.
- Cost to taxpayers would increase with the establishment and maintenance of subregional libraries in Ohio.
- Local public libraries are not prohibited from providing these services now.

One factor that would determine a reconsideration of this decision would be further development of multi-county public library systems in Ohio. If a full package of library services is offered at the multi-county level, the State Library Board may wish to reconsider the institution of subregional services in connection with these systems.

Alternatives for Service Funding

There are three options for the State Library in relation to funding library services to the blind and physically handicapped: fund none of it, fund all of it, fund part of it. Specific alternatives for funding part of it are formula-based funding, as at present, and project-based funding, as proposed.

Alternative 1: No Funding by the State Library, All Local Funding

There is no state that funds this service entirely through local money, nor is it conceivable that local money could be applied in sufficient amount to support the service. In addition, the State Library is legally charged with responsibilities for library development. This alternative is not a viable one.

Alternative 2: Total Funding by the State Library

If the State Library were to fund the entire service, it would cost the state $699,417 in fiscal year 1979 and $754,149 in fiscal year 1980. These figures, provided by the Regional Libraries, include automation and WATS line projects. The present philosophy that local service should be paid for from local funds should be continued; and, therefore, Alternative 2 is not recommended.

Alternative 3: Funding by Formula

The present method of funding services of the Regional Library, by formula, has several advantages:

- The regional libraries and the State Library have a clear idea of how much money is going to be spent on the service,
- There is stable funding as long as state aid is appropriated,
- It encourages the recruitment of new readers in counties other than Cuyahoga or Hamilton,
- The State Library can choose to supplement the formula through LSCA grants.

Disadvantages of the present formula are:

- The formula does not reimburse the Regional Libraries for service to readers within their counties, the premise being that local service is a part of local library responsibility. This is a particular hardship for the Cleveland Public Library, since it shoulders the local responsibilities for all eight library systems in Cuyahoga County,
- Reimbursements are made only at the end of the year in which costs are incurred. This makes cash flow and devaluation resulting from inflation difficult problems for the administering libraries.

Alternative 4: Program Funding

This alternative proposes that both Regional Libraries submit a two-year program plan and budget to the State Library. This plan must include objectives and measurement criteria for evaluation of service as established by the State Library in conjunction with the Regional Libraries. The State Library would make quarterly payments to the Regional Library upon receipt of quarterly reports which reflect progress toward these objectives.

The advantages of this method of funding are:

- The State Library would have more control over the state funds expended for this service,
- By requiring the submission of a plan of service including objectives and measurement criteria, the State Library will better be able to evaluate the effectiveness of the total

program. This provides more accountability,

- Regional Libraries and their administrators would become involved in long-range planning of service to the blind and physically handicapped,
- The Regional Libraries would be aware of their progress toward meeting their objectives, which is an incentive to improve sources.
- Quarterly reporting and payment would allow mid-year budget adjustment if necessary, and ease the cash-flow problems of the present funding structure.

Recommendations for Funding

Alternative 1: No State Funding

It is unrealistic to expect local funding to completely cover a specialized service which is offered statewide. The State Library of Ohio has a responsibility for this service and should continue to support it.

Alternative 2: Full State Funding

Just as it is unrealistic to expect this service to be funded completely by local funds, it is also unrealistic to expect the state to pay for all of it. Local communities have a responsibility to provide library service to all citizens.

Alternative 3: Funding by Formula

Formula funding sets a limit on the amount to be expended by the State Library. The formula is based on the number of readers served plus a base grant.

This method does not encourage overall planning for service, but allows an ad hoc approach.

If the State Library continues formula funding, it is recommended that the formula include Regional Libraries be reimbursed for readers served within Hamilton and Cuyahoga Counties as well as for those served outside the counties. This specialized service is costly to provide. All readers are served equally and there is no justification for subsidizing a special service to only 86 of the 88 counties in Ohio.

Alternative 4: Program Funding

RECOMMENDATION: The State Library should change from formula funding to program funding.

This is recommended for the following reasons:

- Advance planning and budgeting are required which provide the State Library with an input into its long-range planning for library development,
- The plan provides criteria for measuring progress toward objectives,
- The State Library has control over the state money it expends for the service,
- The Regional Libraries can evaluate their progress and modify their programs to better meet their objectives.

SUMMARY

This study recommends that the State Library maintain the present structure of two regional libraries for providing library services to the blind and physically handicapped in Ohio. It is further recommended that the computerization in the regional libraries continue to receive the support of the State Library, but that other funding by the State Library be changed from formula-based to program-based funding.

APPENDIX 1

APPENDIX 1

Code Number_____

Survey of Users of Ohio Braille and Talking Book Program
Study #395

Place number of response in blank.

(Interviewer) Hello, may I speak to _____ (full name)?

(Respondent on line) Hello?

(Interviewer continues with) Mr/Ms _____ (last name), my name is Mary/Tom Peterson (Interviewer) and I am calling (long distance) for Battelle, a research firm in Columbus. We are doing research for the State Library of Ohio on how well the braille and talking book program is working. They would like the opinions of users in order to improve the program. Opinions will be reported in numerical form with no names used. We would appreciate your voluntary cooperation. Would you mind answering some questions about the service? To begin with:

_____ 11 1. Do you presently use the Braille or Talking Book Program?

1. Yes (if yes, go to Q2)
2. No (if no, go to Q3)

_____ 12 2. Which do you use most often; braille or talking books and cassettes?

1. Braille
2. Talking books

Go to Q6

_____ 13 3. Have you ever used the program?

1. Yes (if yes go to Q4)
2. No (if no go to Q5)

_____ 14 4. Why do you no longer use it?

1. My reading needs are satisfied other ways (ask how)
   _____
   _____
   _____
2. I was dissatisfied with the service (ask why)
   _____
   _____
   _____

3. I no longer want talking books (ask why)

_____

_____

_____

Terminate interview.

_____ 15 5. Why don't you use it?

1. I don't need it
2. I don't want it
3. I never heard of it

Terminate interview.

_____ 16 6. How long have you used the service?

1. Less than 3 months
2. 3 months to 1 year
3. 1-5 years
4. More than 5 years

_____ 17 7. How did you find out about the Talking Book Program?

1. Friend, relative or neighbor
2. Public library
3. Social worker, agency, or agency for the blind
4. Medical personnel or facility
5. Rehabilitative Services Commission
6. Teacher or school
7. Publication
8. Radio or Television
9. Other (specify)_____

_____ 18 8. Would you rate the program generally as excellent (1), very good (2), good (3), fair (4), or poor (5)?

_____ 19 9. Do you have either a record player or cassette player supplied by the program? (If yes, which one)?

1. Yes, a recorder player
2. Yes, a cassette player
3. Yes, both
4. No, neither (go to Q12)

_____ 20 10. In what condition is your machine?

1. Good (no complaints)
2. Fair (works sometimes)
3. Poor (broken)

_____ Days
21-23

11. How many days did it take to get your machine after it was ordered?
(leave blank if answer is don't know) Same day=0.

_____ 12. Did the machine demonstration include enough explanation
24 for you to understand how to operate it?

1. Yes
2. No
3. Partially

_____ 13. When you order books, do you usually order from the monthly
25 catalog, or do you make special orders directly through the regional library ?

1. Monthly catalog
2. Special order
3. Both

_____ 14. Approximately how long does it take you to receive the braille
26 or talking books you ordered from the library?

1. 2 weeks or less
2. 2 weeks to three weeks
3. More than 3 weeks

_____ 15. Do you think the time involved between ordering and receiving
27 the material is: all right or too long?

1. All right
2. Too long

_____ 16. Do you always have talking books on hand that you haven't
28 read or do you read them all before new ones arrive?

1. Always on hand
2. Run out of books before new ones arrive

17. Now I'm going to read you a list of services, and I'd like you to tell me whether you've heard of each one, okay? (If know about, ask "Do <u>you</u> use the service?")

Know About Use

_____ 29 _____ 30 First, recordings of popular magazines

_____ 31 _____ 32 How about talking books or cassettes

Know About	Use	
___ 33	___ 34	How about braille materials
___ 35	___ 36	How about toll-free telephone calls to regional library
___ 37	___ 38	How about special recordings of books or magazines at your request
___ 39	___ 40	How about books or cassettes that your regional library does not have

18. We would like to know what you think of the talking books and magazines (1 for yes, 0 for no)

For example:

___ 41 Is there enough variety of topics available?

___ 42 Are there enough books on each topic?

___ 43 Are the materials current enough?

___ 44 Is the sound quality of the books or records good enough?

___ 45 Do you get books which meet your interests?

___ 46 19. Do you use the public library?

1. Yes (specify the services such as telephone reference, cassettes)

   _____

2. No

___ 47 20. Is it important to you to actually visit a library that offers braille and talking books or is it enough for you to speak with a librarian on the telephone about particular needs you may have?

1. Visit
2. Talk on telephone
3. Both
4. Makes no difference

21. Would you tell us if you are generally satisfied (1) or have some complaint (0) about each of the following:

___ 48 Courtesy of librarians who talk with you over telephone

___ 49 How well the tapes work

___ 50 How quickly faulty machines are replaced

___ 51 Availability of librarians to help you

_____ Selection of magazines available
52

_____ Availability of braille materials
53

_____ 22. How often have you called the regional library in Cleveland or Cincinnati in the past 4 months for any reasons? (a. Once a month) 1), (b. 2-3 times a month) 2), (c. Weekly) 3), (d. More than once a month) 4), (e. No calls) 5).
54

23. What were the reasons?

1._____ 3._____
2._____ 4._____

24. What is the one main problem you have encountered in using the service?

25. Has it been resolved?

26. What is the one best way you see to improve the program?

That was the last question in our poll. Thank you very much for your time.
I, _____, certify that the above information was
(Interviewer)
obtained and accurately recorded on _____ at _____a.m/
(Date) (Time)
p.m. from respondent named above.

_____
(Signature of Interviewer)

_____
(ID and Phone Number)

APPENDIX 2

APPENDIX 2

TALKING BOOK REGIONAL LIBRARIES

CINCINNATI

CINCINNATI REGIONAL LIBRARY

Mr. James Kennedy, Regional Librarian for the
Blind and Physically Handicapped
Cincinnati Library for the Blind and Physically
Handicapped
444 West Third Street
Cincinnati, Ohio 45202

PHONE: (513) 369-6074
(513) 369-6075
Toll Free 1 - 800 - 582 - 0335

COUNTIES SERVED

Adams	Hamilton	Muskingum
Athens	Highland	Noble
Brown	Hocking	Perry
Butler	Jackson	Pickaway
Clark	Lawrence	Pike
Clermont	Madison	Preble
Clinton	Meigs	Ross
Fairfield	Miami	Scioto
Fayette	Monroe	Vinton
Gallia	Montgomery	Warren
Greene	Morgan	Washington

CLEVELAND

CLEVELAND REGIONAL LIBRARY

Mr. Robert Vokes, Regional Librarian for the
Blind and Physically Handicapped
Braille and Talking Book Department
Cleveland Public Library
325 Superior Avenue
Cleveland, Ohio 44114

PHONE: (216) 623-2911
Toll Free 1 - 800 - 362 - 1262

COUNTIES SERVED

Allen
Ashland
Ashtabula
Auglaize
Belmont
Carroll
Champaign
Columbiana
Coshocton
Crawford
Cuyahoga
Darke
Defiance
Delaware
Erie
Franklin
Fulton
Geauga
Guernsey
Hancock
Hardin
Harrison
Henry
Holmes
Huron
Jefferson
Knox
Lake
Licking
Logan
Lorain
Lucas
Mahoning
Marion
Medina
Mercer
Morrow
Ottawa
Paulding
Portage
Putnam
Richland
Sandusky
Seneca
Shelby
Stark
Summit
Trumbull
Tuscarawas
Union
Van Wert
Wayne
Williams
Wood
Wyandot

OHIO REHABILITATION SERVICES COMMISSION

TALKING BOOK PROGRAM

TALKING BOOK MACHINE SUB-LENDING AGENCIES

COLUMBUS

OHIO REHABILITATION SERVICES COMMISSION

Mr. Larry A. Gerber
Program Specialist, Talking Book Program
Ohio Rehabilitation Services Commission
4550 Heaton Road
Columbus, Ohio 43229

PHONE: (614) 466-4550
(614) 466-4555

COUNTIES SERVED

Adams	Highland	Pike
Ashland	Jackson	Richland
Auglaize	Knox	Ross
Brown	Lawrence	Scioto
Delaware	Licking	Union
Fairfield	Madison	Vinton
Fayette	Marion	
Franklin	Morrow	
Gallia	Pickaway	

AKRON

SUMMIT COUNTY SOCIETY OF THE BLIND

Mrs. Anita Felber, Talking Book Coordinator
Summity County Society of the Blind
Talking Book Program
325 East Market Street
Akron, Ohio 44304

PHONE: (216) 253-2555

COUNTIES SERVED

Portage
Summit
Wayne

CANTON

PHILOMATHEON SOCIETY OF THE BLIND

Mrs. Betty Jane Spear, Talking Book Coordinator
Philomatheon Society of the Blind
Talking Book Program
2810 Tuscarawas Street, W.
Canton, Ohio 44708

PHONE: (216) 453-9157

COUNTIES SERVED

Carroll
Coshocton
Harrison
Stark
Tuscarawas

CINCINNATI

CINCINNATI ASSOCIATION FOR THE BLIND

Mr. Milton Jahoda, Executive Director
Cincinnati Association for the Blind
Talking Book Program
2045 Gilbert Avenue
Cincinnati, Ohio 45202

PHONE: (513) 221-8558

COUNTIES SERVED

Clermont
Hamilton

CLEVELAND

CLEVELAND SOCIETY FOR THE BLIND

Miss Thelma Emrick, Talking Book Coordinator
Cleveland Society for the Blind
Talking Book Program
1909 East 101st Street
Cleveland, Ohio 44106

PHONE: (216) 791-8118

COUNTIES SERVED

Cuyahoga
Geauga
Lake
Medina

DAYTON

GOODWILL INDUSTRIES OF DAYTON, INC.

Mrs. Carmel Simmons, Director
Services for the Visually Handicapped
Goodwill Industries of Dayton, Inc.
Talking Book Program
201 West Fifth Street
Dayton, Ohio 45402

PHONE: (513) 461-4800

COUNTIES SERVED

Butler	Darke	Montgomery
Champaign	Greene	Preble
Clark	Logan	Shelby
Clinton	Miami	Warren

ELYRIA

CENTER FOR THE SIGHTLESS, INC.

Center for the Sightless, Inc.
Talking Book Program
220 Oberlin Road
Elyria, Ohio 44035

PHONE: (216) 322-1122

COUNTIES SERVED

Lorain

TOLEDO

TOLEDO SOCIETY FOR THE BLIND

Mrs. Loretta Turner, Talking Book Coordinator
Toledo Society for the Blind
Talking Book Program
1819-23 Canton Avenue
Toledo, Ohio 43624

PHONE: (419) 241-1183

COUNTIES SERVED

Allen	Henry	Sandusky
Crawford	Huron	Seneca
Defiance	Lucas	Van Wert
Erie	Mercer	Williams
Fulton	Ottawa	Wood
Hancock	Paulding	Wyandot
Hardin	Putnam	

YOUNGSTOWN

YOUNGSTOWN SOCIETY FOR THE BLIND

Talking Book Coordiantor
Youngstown Society for the Blind
Talking Book Program
2246 Glenwood Avenue
Youngstown, Ohio 44511

PHONE: (216) 788-2411

COUNTIES SERVED

Ashtabula	Mahoning
Columbiana	Trumbull

ZANESVILLE

BUREAU OF SERVICES FOR THE BLIND

Talking Book Coordinator
Bureau of Services for the Blind
Talking Book Program
421-23 Main Street, Suite 400
Zanesville, Ohio 43701

PHONE: (614) 454-9719

COUNTIES SERVED

Athens	Jefferson	Noble
Belmont	Meigs	Perry
Guernsey	Monroe	Washington
Holmes	Morgan	
Hocking	Muskingum	

TALKING BOOK MACHINE ASSOCIATE SUB-LENDING AGENCIES

AKRON

UNITED CEREBRAL PALSY OF AKRON & SUMMIT COUNTY

Mrs. Betty Ravenscraft, Executive Director
United Cerebral Palsy of Akron & Summit County
318 Water St.
Akron, Ohio 44308

PHONE: (216) 376-6041

AKRON-SUMMIT COUNTY PUBLIC LIBRARY

Mrs. Marie Graves, Head
Bookmobiles & Institutions
Akron Public Library
55 South Main Street
Akron, Ohio 44326

CHILLICOTHE

CHILLICOTHE & ROSS COUNTY PUBLIC LIBRARY

Mrs. Jean Dolan, Head of Special Services
Chillicothe & Ross County Public Library
P.O. Box 185 140-146 South Paint Street
Chillicothe, Ohio 45601

PHONE: (614) 773-4145

CINCINNATI

BUREAU OF SERVICES FOR THE BLIND

Talking Book Coordinator
Bureau of Services for the Blind
617 Vine Street, Suite 905
Cincinnati, Ohio 45202

PHONE: (513) 852-3223

COLUMBUS

THE VISION CENTER OF CENTRAL OHIO

Mrs. Martha Coleman, Rehabilitation Teacher
The Vision Center of Central Ohio
1393 North High Street
Columbus, Ohio 43201

PHONE: (614) 294-5571

COLUMBUS

PUBLIC LIBRARY OF COLUMBUS AND FRANKLIN COUNTY

Mr. John Walter, Talking Book Coordinator
28 S. Hamilton Road
Columbus, Ohio 43213

PHONE: (614) 864-8050

DEFIANCE

NORTHWESTERN OHIO COMMUNITY ACTION COMMISSION

Pat Coleman, Talking Book Coordinator
Northwestern Ohio Community Action Commission
700 Jefferson Avenue
Defiance, Ohio 43512

PHONE: (419) 782-3233

GROVE CITY

GROVE CITY PUBLIC LIBRARY

Ms. Carol Barnick, Director, Outreach Service
Grove City Public Library
35 E. Park
Grove City, Ohio 43123

PHONE: (614) 875-6716

HILLSBORO

HIGHLAND COUNTY COMMUNITY ACTION ORGANIZATION

Maizie Rammel, Outreach Worker
Highland County Community Action Organization
120½ N. High Street
Hillsboro, Ohio 45133

PHONE: (513) 393-9671

IRONTON

IRONTON-LAWRENCE COUNTY AREA COMMUNITY ACTION COMMISSION

Mr. Mitch Morgan, Talking Book Coordinator
Ironton-Lawrence County Area Community Action Commis ion
305 North Fifth Street
Ironton, Ohio 45638

PHONE: (614) 532-3534

LANCASTER

VISION CENTER OF FAIRFIELD COUNTY

Jean Dare, Director
Vision Center of Fairfield County
1592 Granville Pk.
Lancaster, Ohio

PHONE: (614) 654-9537

MANSFIELD

MANSFIELD-RICHLAND COUNTY PUBLIC LIBRARY

Mrs. Jessie Hall, Head of Special Services
Mansfield Public Library
43 West Third Street
Mansfield, Ohio 44902

PHONE: (419) 524-1041

MARIETTA

THE CAP CORPORATION OF WASHINGTON-MORGAN COUNTIES

Mrs. Barbara Nourse, Coordinator
CAP - Family Service Center
243 Front Street
Marietta, Ohio 45750

PHONE: (614) 373-3745

MARION

MARION PUBLIC LIBRARY

Mr. Jim Miley, Adult Services Librarian
Marion Public Library
244 South Main Street
Marion, Ohio 43302

PHONE: (614) 383-3191

NORWALK

ERIE-HURON COUNTIES COMMUNITY ACTION COMMISSION

Mrs. Ann Stoddard, Director
Norwalk Community Action Center
258 Benedict
Norwalk, Ohio 44857

PHONE: (419) 668-9823

LIMA

BUREAU OF SERVICES FOR THE BLIND

940 N. Cable Road
Lima, Ohio 45805

PHONE: (419) 227-4270

MARYSVILLE

Judy Wholf
Marysville Public Library
231 S. Court
Marysville, Ohio 43040

McCONNELLSVILLE

FAMILY SERVICE CENTER

Family Service Center
43 S. Seventh Street
McConnellsville, Ohio 43756

PHONE: (614) 962-3827

MIDDLETOWN

MIDDLETOWN FREE LIBRARY

Louise Schmidt
Middletown Free Library
1320 1st Avenue
Middletown, Ohio 45042

PHONE: (513) 424-1251

NEWARK

LEADS

Mrs. Vogel
9 N. 5th Street
Newark, Ohio 43055

PHONE: (614) 345-5449

PORTSMOUTH

BUREAU OF SERVICES FOR THE BLIND

Talking Book Coordinator
Bureau of Services for the Blind
604 Chillicothe Street, Suite 304
Portsmouth, Ohio 45662

PHONE: (614) 354-8803

RAVENNA

REED MEMORIAL LIBRARY

Mrs. Phyllis Cettomai, Librarian
Reed Memorial Library
167 East Main Street
Ravenna, Ohio 44266

PHONE: (216) 296-2827

SPRINGFIELD

CLARK COUNTY COUNCIL OF THE BLIND

Mr. William Lethcoe, President
Clark County Council of the Blind
311 Sturgeon
Springfield, Ohio 45501

PHONE: (513) 322-5832

STEUBENVILLE

EASTERN OHIO SPEECH & HEARING CENTER, INC.

Don Cohen, Director of Clinical Services
Eastern Ohio Speech & Hearing Center, Inc.
P.O. Box #45
Steubenville, Ohio 43952

PHONE: (614) 283-3674

TIFFIN

BETTY JANE REHABILITATION CENTER

Mrs. Janet Miller, Talking Book Coordinator
Betty Jane Rehabilitation Center
65 St. Francis Avenue
Tiffin, Ohio 44883

PHONE: (419) 448-4655

TOLEDO

OUTREACH & SPECIAL SERVICES

Sue Coburn
Outreach & Special Services
Toledo-Lucas County Public Library
501 River Road
Maumee, Ohio 43537

PHONE: (419) 242-7361, Ext. 305

WARREN

WARREN PUBLIC LIBRARY

Mrs. Carol Kerr, Project Librarian
Warren Public Library
Trumbull County Homebound Library Service
444 Mahoning Avenue, N.W.
Warren, Ohio 44483

PHONE: (216) 399-8807

WARSAW

KNO-HO-CO TRI-COUNTY COMMUNITY ACTION COMMISSION

Dolores Meehan, Talking Book Coordinator
Kno-ho-co Tri-County Community Action Commission
Route #3
Warsaw, Ohio 43302

PHONE: (614) 824-3511

WILLOWICK

WILLOUGHBY-EASTLAKE PUBLIC LIBRARY

Mrs. Dolly Gundersen, Director of Libraries
Willoughby-Eastlake Public Library
263 East 305th Street
Willowick, Ohio 44094

PHONE: (216) 944-6900

WILMINGTON

CLINTON COUNTY COMMUNITY ACTION CENTER

Mrs. Viktoria McCulley, Program Director
Clinton County Community Action Center
Neighborhood Service Center
125 S. South Street
Wilmington, Ohio 45177

PHONE: (513) 382-4462

WOOSTER

WAYNE COUNTY PUBLIC LIBRARY

Mrs. Jean McConnell, Librarian
Wayne County Public Library
304 North Market Street
Wooster, Ohio 44691

PHONE: (216) 262-0916

ZANESVILLE

JOHN McINTIRE PUBLIC LIBRARY

Outreach Coordinator
John McIntire Public Library
220 North Fifth Street
Zanesville, Ohio 43701

PHONE: (614) 453-0391